



# 2011

## Performance-Based Research Fund

### Annual Report





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# Introduction and contents

## Content of this report

The Performance-Based Research Fund (PBRF) 2011 Annual Report provides information about how each participating tertiary education organisation (TEO) performed against the three PBRF measures in the 2011 calendar year.

It sets out the final funding allocations for 2011 and the indicative funding allocations for 2012. Comparing these figures with financial data from the previous year enables further analysis to be drawn.

This report also supplies results for the research degree completions (RDC) and external research income (ERI) measures, incorporating data from the years 2007–2010 and additional information on subject area weightings.

## Chapter outline

Chapter one describes how the PBRF funding process works, and gives a brief overview of funding for 2011 and 2012.

Chapter two outlines the Quality Evaluation (QE) measure.

Chapter three outlines the ERI measure.

Chapter four outlines the RDC measure and also contains supplementary data and analysis on RDC counts over both the 2011 final funding and 2012 indicative funding periods.

# Chapter 1: Overview

## Introduction

### Fund background

- 1.1 The Tertiary Education Commission Te Amorangi Mātauranga Matua (TEC) manages the PBRF which has the primary goal of encouraging and rewarding excellent research in New Zealand's tertiary education sector. This involves assessing the quality of research carried out by New Zealand based degree-granting tertiary education organisations (TEOs) – and their wholly-owned subsidiaries – and funding them on the basis of their research performance.
- 1.2 The PBRF considers the quality of research carried out by researchers working at participating TEOs, rather than the quantity of research outputs or the particular nature of the research as such. The purpose of the PBRF is not to provide funding for research projects, but to reward research excellence and support TEOs to provide an environment that produces research of a high quality. One of the key reasons for taking this approach is to ensure that degree and Post graduate-level teaching is underpinned by high quality research activities.
- 1.3 The PBRF has grown since its introduction in 2003 to \$250 million per year in 2011.<sup>1</sup> The original funding that allowed the creation of the PBRF came from existing Vote Education research funding paid as a top-up to Student Component Funding to support the delivery of postgraduate courses.

### Participants

- 1.4 A total of 45 TEOs met the eligibility criteria<sup>2</sup> for PBRF funding in 2010 and 2011. Of this group, 27 participated in the measures that form the PBRF. These participants include all eight of New Zealand's universities; ten of the 17 eligible institutes of technology and polytechnics (ITPs); two of the three eligible wānanga; and seven of the 17 eligible private training establishments (PTEs).

### Components

- 1.5 The PBRF has three components: a periodic Quality Evaluation (QE) measure; a Research Degree Completions (RDC) measure; and an External Research Income (ERI) measure. In the PBRF funding formulae, these three components are weighted 60 percent, 25 percent, and 15 percent respectively.
- 1.6 For each of the components, a provider's share of funding is determined by its performance relative to other participating TEOs. Quality Evaluations were held in 2003 and 2006, with the latter setting TEOs' QE ratios until 2013. The RDC and ERI measures are calculated annually using three-year weighted averages.

### The 2012 Quality Evaluation and beyond

- 1.7 A third Quality Evaluation was held in 2012 and the interim results were published in April 2013. Detailed analysis of results can be found at [www.tec.govt.nz/About-us/News/Media-releases/PBRF-2012-Quality-Evaluation--Interim-Report-Released](http://www.tec.govt.nz/About-us/News/Media-releases/PBRF-2012-Quality-Evaluation--Interim-Report-Released).

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1 Unless otherwise specified, all funding figures in this report are GST exclusive and by calendar year.

2 The PBRF Guidelines state that providers must have degree-granting authority and also participate in all three measures, even if their funding entitlement in one or more measure is likely to be zero.

- 1.8 The PBRF was reviewed following both the 2003 and 2006 Quality Evaluation rounds. A new review underway by the Ministry of Education will conclude in September 2013 with findings on the extent to which the PBRF has achieved its longer-term aims and recommendations for any changes.

## Applying the funding formulae

- 1.9 Indicative PBRF funding allocations are made before the funding year starts, usually around November. These indicative allocations are based on TEOs' performance against each of the three PBRF measures and on the funding pool size. Performance is measured using the most up-to-date information available for each measure at the time funding is calculated.
- 1.10 Participating TEOs receive monthly PBRF payments through the tertiary education funding system, with each monthly payment normally being of an equal amount. A final wash-up funding adjustment for each year is then made in July of the following year. This is based on final information received from TEOs and takes into account any changes in a TEO's overall PBRF entitlement. Wash-up adjustments may be credits or debits.
- 1.11 The amount of a TEO's final PBRF entitlement may differ from its indicative allocation due to a range of factors which may include:
- variances in the size of the PBRF pool between the indicative allocation and the wash-up;
  - a TEO leaving the PBRF during the course of a year by ceasing operation or changing course offerings, which may increase the value of each remaining TEO's share;
  - errors found in PBRF data as a result of checks which, when corrected, may result in an increase or a decrease in the share of a TEO (with a corresponding adjustment for other TEOs); and
  - the overall number of RDC or amount of ERI increasing or decreasing, affecting the proportion of funding available to each TEO.

## 2011 final funding allocations

- 1.12 A total of \$250 million in PBRF funding was available in 2011 and was allocated as shown in Table 1.1 below.

**Table 1.1: Final 2011 PBRF funding allocations – by measures**

TEO	Quality Evaluation	External Research Income	Research Degree Completions	Total Funding
University of Auckland	\$40,525,364	\$13,743,207	\$19,703,061	<b>\$73,971,632</b>
University of Otago	\$33,636,984	\$8,279,778	\$10,612,380	<b>\$52,529,142</b>
Massey University	\$21,833,456	\$4,732,732	\$8,104,393	<b>\$34,670,581</b>
University of Canterbury	\$15,896,276	\$3,011,603	\$8,238,228	<b>\$27,146,107</b>
Victoria University of Wellington	\$14,600,714	\$2,944,408	\$5,548,702	<b>\$23,093,824</b>
University of Waikato	\$9,568,154	\$1,820,769	\$3,984,663	<b>\$15,373,586</b>
Lincoln University	\$4,679,326	\$1,997,286	\$1,806,913	<b>\$8,483,525</b>
Auckland University of Technology	\$4,108,163	\$701,081	\$3,228,996	<b>\$8,038,240</b>
Unitec New Zealand	\$2,331,493	\$101,043	\$683,746	<b>\$3,116,282</b>
Otago Polytechnic	\$500,849	\$41,985	\$136,082	<b>\$678,916</b>
Waikato Institute of Technology	\$346,099	\$20,173	\$211,410	<b>\$577,682</b>
Manukau Institute of Technology	\$496,857	\$12,481	-	<b>\$509,338</b>

TEO	Quality Evaluation	External Research Income	Research Degree Completions	Total Funding
Christchurch Polytechnic Institute of Technology	\$376,118	\$27,271	-	<b>\$403,389</b>
Te Whare Wānanga o Awanuiārangi	\$199,482	\$28,936	\$47,487	<b>\$275,905</b>
Eastern Institute of Technology	\$159,704	\$14,847	\$43,500	<b>\$218,051</b>
Open Polytechnic of New Zealand	\$174,787	\$3,738	-	<b>\$178,525</b>
Te Wānanga o Aotearoa	\$162,661	-	-	<b>\$162,661</b>
Whitecliffe College of Arts and Design	\$42,883	-	\$115,275	<b>\$158,158</b>
Nelson Marlborough Institute of Technology	\$85,360	-	-	<b>\$85,360</b>
Whitireia Community Polytechnic	\$63,586	\$6,687	-	<b>\$70,273</b>
Laidlaw College	\$25,878	-	\$35,162	<b>\$61,040</b>
Northland Polytechnic	\$54,566	\$5,171	-	<b>\$59,737</b>
Carey Baptist College	\$51,756	\$97	-	<b>\$51,853</b>
Bethlehem Institute of Education	\$22,181	\$6,710	-	<b>\$28,891</b>
AIS St Helens	\$22,181	-	-	<b>\$22,181</b>
Good Shepherd College	\$22,181	-	-	<b>\$22,181</b>
Anamata	\$12,939	-	-	<b>\$12,939</b>
<b>Total</b>	<b>\$149,999,998</b>	<b>\$37,500,003</b>	<b>\$62,499,999</b>	<b>\$250,000,000</b>

1.13 All 27 PBRF-participating TEOs received funding through the Quality Evaluation measure in 2011. A total of \$150 million of PBRF funding was allocated between TEOs in 2011 based on 2006 Quality Evaluation scores.

1.14 For 2011, 20 providers were eligible to receive their share of \$37.5 million in ERI funding, based on a weighted average derived from their 2007-2009 performance.

1.15 Also based on performance in 2007-2009, a total of \$62.5 million in RDC funding was available for allocation to 15 TEOs in 2011.

## Universities

1.16 Together, New Zealand's eight universities received 97.32 percent of the final PBRF funding in 2011.

1.17 The University of Auckland and the University of Otago again together received slightly more than 50 percent of the total available funding in 2011. There were nevertheless distinct differences in the relative strengths of these two highest performing universities in the PBRF.

1.18 Of all participating TEOs, the University of Auckland received the greatest share of the total QE allocation. In terms of its overall PBRF funding, however, it received proportionately less from this measure than the University of Otago: the proportion of total funding made up by the QE component was 64.03 percent for the University of Otago, and 54.79 percent for the University of Auckland.

1.19 Conversely, the University of Auckland generated significantly higher proportions of funding from the two other components: RDC and ERI funding respectively made up 26.64 and 18.58 percent of its total allocation, while these same measures accounted for 20.20 and 15.76 percent of the University of Otago's overall PBRF funding.



## ITP sub-sector

- 1.20 In 2011, the ITP sub-sector received 2.36 percent of the total PBRF funding. As in 2010, the performance-based distribution of this \$5.90 million was highly variable.
- 1.21 Unitec alone received 52.84 percent of the entire PBRF funds allocated to the ITP sub-sector – a total of \$3.12 million and an increase of 6.84 percent compared with 2010. Unitec's ERI allocation however dropped by 34.57 percent compared with 2010. Otago Polytechnic had the second highest total PBRF allocation of the ITPs with \$678,916.
- 1.22 While the QE accounted for the majority of each ITP's total PBRF allocation, the proportion of individual providers' funding made up of this measure ranged widely, from 59.91 percent at Waikato Institute of Technology to 100 percent at Nelson Marlborough Institute of Technology.
- 1.23 The highest individual proportions of ERI funding were generated by the otherwise lowest performing providers in the PBRF within the ITP sub-sector: funding from this component accounted for 9.52 percent of Whitireia's total allocation and for 8.66 percent of Northland Polytechnic's, compared with 3.24 percent of Unitec's.
- 1.24 However, each provider's proportion of ERI funding is not only a function of its performance against this measure, but also against the QE measure and (where applicable) the RDC measure. Whitireia and Northland Polytechnic, for example, did not produce any RDCs or receive any RDC funding, and in dollar terms they received relatively small amounts of ERI compared to higher performing providers. Allocations for RDCs were paid to four of the 10 PBRF-eligible ITPs, and in each case this measure was a significant source of revenue: RDC funding accounted for 36.60 percent of Waikato Institute of Technology's total PBRF allocation and contributed over a fifth of Otago Polytechnic's total allocation. RDC funding was sizeable for Unitec too, with its 21.94 percent share netting this provider \$683,746.

## Wānanga and PTE sub-sectors

- 1.25 The wānanga and PTE sub-sectors respectively received 0.18 and 0.14 percent of the total PBRF fund in 2011.
- 1.26 For almost all TEOs in 2011, the largest proportion of their final PBRF funding came from the QE measure. One exception to this rule was Whitecliffe College whose QE allocation made up 27.11 percent of its total funding, with the remaining 72.89 percent derived from its RDCs. Also an exception, Laidlaw College received similar proportions of funding from the QE and RDC components (42.40 percent and 57.61 percent, respectively).
- 1.27 Of the two participating wānanga, Te Whare Wānanga o Awanuiārangi produced the strongest performance, attracting funding from all three measures to make up its total \$275,905 (of which 72.30 percent was from QE; 10.49 percent was from ERI; 17.21 percent was from RDC). Conversely, Te Wānanga o Aotearoa's lesser PBRF funding was derived entirely from the institution's 2006-based performance in the QE.
- 1.28 Three of the seven participating PTEs also received 100 percent of their funding from the QE component. Two other providers in this sub-sector – Laidlaw College and Whitecliffe College – were the only ones to receive RDC funding, for whom, as previously noted, it represented a sizeable proportion of their total allocation.
- 1.29 ERI was only allocated to two PTEs – Carey Baptist College, where this measure made up less than two percent of total funding, and Bethlehem Institute of Education where it accounted for 23.23 percent of the provider's total funding.

## High-level comparison of final funding allocations for 2010 and 2011

**Table 1.2: Final 2010 and final 2011 funding allocations – totals**

TEO	Total Funding 2010	Total Funding 2011	Change (%)
University of Auckland	\$73,244,499	\$73,971,632	0.99%
University of Otago	\$52,946,805	\$52,529,142	(0.79%)
Massey University	\$35,016,295	\$34,670,581	(0.99%)
University of Canterbury	\$27,130,968	\$27,146,107	0.06%
Victoria University of Wellington	\$23,217,071	\$23,093,824	(0.53%)
University of Waikato	\$15,628,083	\$15,373,586	(1.63%)
Lincoln University	\$8,622,299	\$8,483,525	(1.61%)
Auckland University of Technology	\$7,580,719	\$8,038,240	6.04%
Unitec New Zealand	\$2,916,711	\$3,116,282	6.84%
Otago Polytechnic	\$696,044	\$678,916	(2.46%)
Waikato Institute of Technology	\$614,320	\$577,682	(5.96%)
Manukau Institute of Technology	\$503,977	\$509,338	1.06%
Christchurch Polytechnic Institute of Technology	\$424,254	\$403,389	(4.92%)
Te Whare Wānanga o Awanuiāraangi	\$277,078	\$275,905	(0.42%)
Eastern Institute of Technology	\$165,732	\$218,051	31.57%
Open Polytechnic of New Zealand	\$193,970	\$178,525	(7.96%)
Te Wānanga o Aotearoa	\$162,641	\$162,661	0.01%
Whitecliffe College of Arts and Design	\$210,713	\$158,158	(24.94%)
Nelson Marlborough Institute of Technology	\$85,350	\$85,360	0.01%
Whitireia Community Polytechnic	\$76,728	\$70,273	(8.41%)
Laidlaw College	\$51,233	\$61,040	19.14%
Northland Polytechnic	\$61,623	\$59,737	(3.06%)
Carey Baptist College	\$52,001	\$51,853	(0.28%)
Bethlehem Institute of Education	\$29,258	\$28,891	(1.25%)
AIS St Helens	\$22,178	\$22,181	0.01%
Good Shepherd College	\$22,178	\$22,181	0.01%
Anamata	\$16,012	\$12,939	(19.19%)
<b>Total</b>	<b>\$249,968,740</b>	<b>\$250,000,000</b>	<b>0.01%</b>

- 1.30 Across all three measures, final funding allocations were only marginally higher in 2011 than in 2010. The full amount of the \$250 million annual appropriation was disbursed in final funding for 2011 – that is, over \$30,000 more than final allocations for the previous year. However, the performance of some TEOs led to a reduction in their funding.
- 1.31 For some TEOs, the differences in final funding allocations between 2010 and 2011 led to a change in their total PBRF funding. Thus in Table 1.2 above, three couplets of providers inverted their order between years, with the first of each of the following pairs receiving more funding in 2011 than the second; Northland Polytechnic and Laidlaw College; Eastern Institute of Technology and the Open Polytechnic; Te Wānanga o Aotearoa and Whitecliffe College of Arts and Design.
- 1.32 Final funding for each of the three measures increased by 0.01 percent in 2011. This was applied as a flat rate of change for every participating TEO in the QE component, while percentage changes for the ERI and RDC components varied widely between providers in 2011. More detailed analysis is provided in subsequent chapters on each of the three measures.

## High-level comparison of indicative versus final funding for 2011

**Table 1.3: Indicative and final funding allocations for 2011**

TEO	Total 2011 Indicative Funding	Total 2011 Final Funding	Change (\$)	Change (%)
University of Auckland	\$74,608,186	\$73,971,632	(\$636,554)	(0.85%)
University of Otago	\$52,951,594	\$52,529,142	(\$422,452)	(0.80%)
Massey University	\$35,219,397	\$34,670,581	(\$548,816)	(1.56%)
University of Canterbury	\$26,841,426	\$27,146,107	\$304,681	1.14%
Victoria University of Wellington	\$22,780,298	\$23,093,824	\$313,526	1.38%
University of Waikato	\$15,425,140	\$15,373,586	(\$51,554)	(0.33%)
Lincoln University	\$8,537,850	\$8,483,525	(\$54,325)	(0.64%)
Auckland University of Technology	\$7,107,019	\$8,038,240	\$931,221	13.10%
Unitec New Zealand	\$3,011,441	\$3,116,282	\$104,841	3.48%
Otago Polytechnic	\$666,144	\$678,916	\$12,772	1.92%
Waikato Institute of Technology	\$583,560	\$577,682	(\$5,878)	(1.01%)
Manukau Institute of Technology	\$509,338	\$509,338	-	-
Christchurch Polytechnic Institute of Technology	\$403,389	\$403,389	-	-
Te Whare Wānanga o Awanuiārangi	\$277,368	\$275,905	(\$1,463)	(0.53%)
Eastern Institute of Technology	\$227,799	\$218,051	(\$9,748)	(4.28%)
Open Polytechnic of New Zealand	\$178,525	\$178,525	-	-
Te Wānanga o Aotearoa	\$162,661	\$162,661	-	-
Whitecliffe College of Arts and Design	\$94,449	\$158,158	\$63,709	67.45%
Nelson Marlborough Institute of Technology	\$85,360	\$85,360	-	-
Whitireia Community Polytechnic	\$70,273	\$70,273	-	-
Laidlaw College	\$61,003	\$61,040	\$37	0.06%
Northland Polytechnic	\$59,737	\$59,737	-	-

TEO	Total 2011 Indicative Funding	Total 2011 Final Funding	Change (\$)	Change (%)
Carey Baptist College	\$51,853	\$51,853	-	-
Bethlehem Institute of Education	\$28,891	\$28,891	-	-
ALS St Helens	\$22,181	\$22,181	-	-
Good Shepherd College	\$22,181	\$22,181	-	-
Anamata	\$12,939	\$12,939	-	-
<b>Total</b>	<b>\$250,000,000</b>	<b>\$250,000,000</b>	-	<b>(0.00%)</b>

1.33 After the wash-up for 2011, the final funding totalled across all three measures remained the same as the indicative amount (\$250 million). Five universities final allocations decreased compared with their indicative allocations. Auckland University of Technology's final allocation increased by 13.10 percent on its indicative allocation or by \$931,221 in monetary terms. Unitec and the Whitecliffe College of Arts and Design both had increases between indicative and final allocations of 3.48 percent (\$104,841) and 67.45 percent (\$63,709) respectively.

## 2012 funding allocations – by measures

1.34 As shown in Table 1.4, a total of \$250 million of indicative PBRF funding was allocated for the 2012 funding year.

**Table 1.4: Indicative 2012 funding allocations – by measures**

TEO	Quality Evaluation	External Research Income	Research Degree Completions	Total Funding
University of Auckland	\$40,525,364	\$13,817,320	\$20,281,250	\$74,623,934
University of Otago	\$33,636,984	\$8,267,427	\$10,650,000	\$52,554,411
Massey University	\$21,833,456	\$4,975,401	\$7,625,000	\$34,433,857
University of Canterbury	\$15,896,278	\$2,757,902	\$7,325,000	\$25,979,180
Victoria University of Wellington	\$14,600,714	\$2,970,948	\$6,143,750	\$23,715,412
University of Waikato	\$9,568,154	\$1,776,951	\$4,143,750	\$15,488,855
Lincoln University	\$4,679,326	\$2,035,199	\$1,981,250	\$8,695,775
Auckland University of Technology	\$4,108,163	\$608,199	\$2,762,500	\$7,478,862
Unitec New Zealand	\$2,331,493	\$59,177	\$943,750	\$3,334,420
Otago Polytechnic	\$500,849	\$77,730	\$112,500	\$691,079
Waikato Institute of Technology	\$346,099	\$9,595	\$256,250	\$611,944
Manukau Institute of Technology	\$496,857	\$14,185	-	\$511,042
Christchurch Polytechnic Institute of Technology	\$376,118	\$20,268	-	\$396,386
Te Whare Wānanga o Awanuiārangi	\$199,482	\$57,431	\$75,000	\$331,913
Eastern Institute of Technology	\$159,704	\$22,221	\$31,250	\$213,175
Whitecliffe College of Arts and Design	\$42,883	-	\$137,500	\$180,383
Open Polytechnic of New Zealand	\$174,787	\$5,342	-	\$180,129
Te Wānanga o Aotearoa	\$162,661	-	-	\$162,661

TEO	Quality Evaluation	External Research Income	Research Degree Completions	Total Funding
Nelson Marlborough Institute of Technology	\$85,360	-	-	\$85,360
Whitireia Community Polytechnic	\$63,586	\$14,529	-	\$78,115
Laidlaw College	\$25,878	-	\$31,250	\$57,128
Northland Polytechnic	\$54,566	\$2,255	-	\$56,821
Carey Baptist College	\$51,756	-	-	\$51,756
Bethlehem Institute of Education	\$22,181	\$7,920	-	\$30,101
AIS St Helens	\$22,181	-	-	\$22,181
Good Shepherd College	\$22,181	-	-	\$22,181
Anamata	\$12,939	-	-	\$12,939
<b>Total</b>	<b>\$150,000,000</b>	<b>\$37,500,000</b>	<b>\$62,500,000</b>	<b>\$250,000,000</b>

- 1.35 All 27 PBRF-participating TEOs received allocations for 2011 through the Quality Evaluation measure, which used scores from the 2006 Quality Evaluation to allocate \$150 million of indicative funding.
- 1.36 For 2012, \$37.5 million was available for ERI indicative funding allocations, which were based on a weighted average resulting from 2008–2010 performance.
- 1.37 A total \$62.5 million was available for RDC indicative allocations for 2012, based on 2008–2010 performance. Fifteen TEOs were eligible to receive this indicative RDC funding for 2012.

## High-level comparison of indicative funding for 2012 with final funding for 2011

- 1.38 Table 1.5 compares 2011 final and 2012 indicative funding allocations, and reveals a range of changes in funding across TEOs.

**Table 1.5: Indicative 2012 funding compared to final 2011 funding – totals**

TEO	2011 Final Funding	2012 Indicative Funding	Change (\$)	Change (%)
University of Auckland	\$73,971,632	\$74,623,934	\$652,302	0.88%
University of Otago	\$52,529,142	\$52,554,411	\$25,269	0.05%
Massey University	\$34,670,581	\$34,433,857	(\$236,724)	(0.68%)
University of Canterbury	\$27,146,107	\$25,979,180	(\$1,166,927)	(4.30%)
Victoria University of Wellington	\$23,093,824	\$23,715,412	\$621,588	2.69%
University of Waikato	\$15,373,586	\$15,488,855	\$115,269	0.75%
Lincoln University	\$8,483,525	\$8,695,775	\$212,250	2.50%
Auckland University of Technology	\$8,038,240	\$7,478,862	(\$559,378)	(6.96%)
Unitec New Zealand	\$3,116,282	\$3,334,420	\$218,138	7.00%
Otago Polytechnic	\$678,916	\$691,079	\$12,163	1.79%
Waikato Institute of Technology	\$577,682	\$611,944	\$34,262	5.93%
Manukau Institute of Technology	\$509,338	\$511,042	\$1,704	0.33%

TEO	2011 Final Funding	2012 Indicative Funding	Change (\$)	Change (%)
Christchurch Polytechnic Institute of Technology	\$403,389	\$396,386	(\$7,003)	(1.74%)
Te Whare Wānanga o Awanuiārangi	\$275,905	\$331,913	\$56,008	20.30%
Eastern Institute of Technology	\$218,051	\$213,175	(\$4,876)	(2.24%)
Open Polytechnic of New Zealand	\$178,525	\$180,129	\$1,604	0.90%
Te Wānanga o Aotearoa	\$162,661	\$162,661	-	-
Whitecliffe College of Arts and Design	\$158,158	\$180,383	\$22,225	14.05%
Nelson Marlborough Institute of Technology	\$85,360	\$85,360	-	-
Whitireia Community Polytechnic	\$70,273	\$78,115	\$7,842	11.16%
Laidlaw College	\$61,040	\$57,128	(\$3,912)	(6.41%)
Northland Polytechnic	\$59,737	\$56,821	(\$2,916)	(4.88%)
Carey Baptist College	\$51,853	\$51,756	(\$97)	(0.19%)
Bethlehem Institute of Education	\$28,891	\$30,101	\$1,210	4.19%
AIS St Helens	\$22,181	\$22,181	-	-
Good Shepherd College	\$22,181	\$22,181	-	-
Anamata	\$12,939	\$12,939	-	-
<b>Total</b>	<b>\$250,000,000</b>	<b>\$250,000,000</b>	<b>\$0</b>	<b>0.00%</b>

- 1.39 Although there were a number of changes across individual providers in the amount of funding they received, the overall total indicative allocation remained the same as the final funding for 2011.
- 1.40 Between the 2011 final and the 2012 indicative allocations, eight of the 27 participating TEOs sustained decreases in their total funding (versus 15 decreases between the 2010 final and 2011 indicative allocations).

## Universities

- 1.41 In the university sub-sector, three institutions saw reductions in funding between their 2011 final and 2012 indicative allocations.
- 1.42 Auckland University of Technology experienced the largest decrease, falling by 6.96 percent. The University of Canterbury also dropped by 4.30 percent – a sizable \$1.17 million in dollar terms – while Massey University dropped by 0.68 percent.
- 1.43 Across the other universities there were small increases between 2011 final and 2012 indicative funding, ranging from 0.05 percent at the University of Otago to 2.69 percent at Victoria University of Wellington (\$621,588) – second highest in monetary terms behind the University of Auckland’s 0.88 percent increase (\$652,302).

## ITP sub-sector

- 1.44 Taken as a whole, indicative funding for the ITP sub-sector increased by 4.42 percent on its total final allocations for 2011. This increase is mostly attributable to Unitec as it receives by far the highest proportion of PBRF funding across the sub-sector, and increased by seven percent or \$218,138 compared with 2011 final allocations. These increased indicative allocations at Unitec and Waikato Institute of Technology were primarily a result of increased RDC counts, however both reduced in terms of ERI.

- 1.45 Waikato Institute of Technology increased by 5.93 percent which was the second largest increase across the sub-sector in monetary terms, equalling \$34,262. Whitireia Community Polytechnic experienced proportionally the strongest increase of 11.16 percent but in dollar terms this increase was relatively small (\$7,842) for the sub-sector.
- 1.46 The funding allocations for three ITPs dropped compared with their 2011 funding. Funding for Christchurch Polytechnic Institute of Technology reduced the most in dollar terms, down by 1.74 percent (\$7,003) due to a decrease in ERI funding. Northland Polytechnic and Eastern Institute of Technology decreased by 4.88 and 2.24 percent respectively.

## Other providers

- 1.47 Across wānanga and PTEs, the two most notable changes between 2012 indicative funding and 2011 final allocations occurred at Te Whare Wānanga o Awanuiārangi and Whitecliffe College of Arts and Design which experienced increases of 20.30 percent and 14.05 percent respectively. In both cases these increases were due to improved performance in RDCs.
- 1.48 In monetary terms the increases at these two providers amounted to \$56,008 and \$22,225 respectively, which together accounted for more than the six providers that received the smallest individual allocations combined.
- 1.49 Laidlaw College decreased by 6.41 percent or \$3,912 due to poorer performance in its RDC count, while Bethlehem Institute of Education had a small increase of 4.19 percent due to an increase in ERI funding. Other providers across these two sub-sectors either had no change in terms of indicative 2012 funding compared with 2011 final funding, or the change was negligible.

## Chapter 2: The Quality Evaluation measure

### Introduction

- 2.1 The Quality Evaluation measure accounts for 60 percent of the total funds allocated through the PBRF each year. The Quality Evaluation process uses expert peer-review panels to assess research quality, based on material contained in individual researchers' Evidence Portfolios (EPs). Quality Evaluations were held in 2003 and 2006, and the scores from the latter are currently used in the funding calculation. The interim report on the 2012 Quality Evaluation provides a refreshed picture of the quality and strengths of research in the sector, with the 2012 performance data updating the ratios for the allocation of this measure for 2013 allocations onwards.<sup>3</sup> For 2011 allocations, 2006 and 2012 Quality Evaluation results still apply. The interim report will be finalised in August 2013, after the complaints process has been completed.
- 2.2 Funding in relation to the Quality Evaluation is based on:
- quality categories assigned to EPs;
  - funding weightings for the subject area to which EPs have been assigned; and
  - Full-Time Equivalent (FTE) status of PBRF-eligible staff as at the date of the PBRF Census.

### Funding formula for the Quality Evaluation measure

- 2.3 The funding formula for the proportion of the quality measure allocated to each TEO is:

$$\frac{\sum \text{TEO [(numerical quality score) x (funding weighting for relevant subject area) x (FTE status of researcher)]}}{\sum \text{all TEOs [(numerical quality score) x (funding weighting for relevant subject area) x (FTE status of researcher)]}} \times \text{total amount of funding available for the Quality Evaluation component of the PBRF}$$

### Quality categories

- 2.4 The quality categories assigned to staff members' EPs have numerical weightings known as quality weightings, as set out below in Table 2.1 (where "NE" signifies new and emerging researcher, and "R" denotes research activity or quality at an insufficient level for the PBRF).

**Table 2.1: Quality category weighting**

Quality Category	Quality Weighting
A	5
B	3
C	1
C(NE)	1
R	0
R(NE)	0

<sup>3</sup> As noted earlier, the 2012 PBRF Quality Evaluation results were published in April 2013 and are available on the TEC website.



## Funding weighting for subject areas

2.5 The current subject area weightings, as set out in Table 2.2 below, are intended to reflect the relative cost of research in each EP's primary subject area.

**Table 2.2: Subject area weightings**

Subject Areas	Funding category	Weighting
Māori knowledge and development; law; history, history of art, classics and curatorial studies; English language and literature; foreign languages and linguistics; philosophy; religious studies and theology; political science, international relations and public policy; human geography; sociology, social policy, social work, criminology, and gender studies; anthropology and archaeology; communications, journalism, and media studies; education; pure and applied mathematics; statistics; management, human resources, industrial relations, international business, and other business; accounting and finance; marketing and tourism; and economics.	A, I, J	1
Psychology; chemistry; physics; earth sciences; molecular, cellular and whole organism biology; ecology, evolution and behaviour; computer science, information technology, information sciences; nursing; sport and exercise science; other health studies (including rehabilitation therapies); music, literary arts and other arts; visual arts and crafts; theatre and dance, film and television and multimedia; and design.	B, L	2
Engineering and technology; agriculture and other applied biological sciences; architecture, planning, surveying; biomedical; clinical medicine; pharmacy; public health; veterinary studies and large animal science; and dentistry.	C, G, H, M, Q	2.5

## Full-time equivalent status of staff

2.6 Funding is generated in proportion to FTE status as supplied by TEOs in the PBRF Census: Staffing Return. FTE calculations for the funding allocations covered by this report included four particular considerations:<sup>4</sup>

- When staff members were concurrently employed at two TEOs during the year before the census date of 14 June 2006, they generated an FTE entitlement for each organisation based on their FTE status in their employment agreement with each TEO.
- For most staff, the FTE that applied was the FTE status in the week of 12 June 2006 to 16 June 2006. However, if staff had changed their employment status within the TEO during the previous 12 months, their FTE status was their average FTE over the period (for example six months at 0.5 FTE and six months at 1 FTE = 0.75 FTE).
- When a staff member started employment in the 12-month period before the census and was not previously employed by a participating TEO, then – providing they have an employment agreement of one year or more – their FTE status was as their employment agreement stated it to be at the census.
- When a staff member left one participating TEO to take up a position in another participating TEO in the 12 months before the census, both TEOs had a proportional FTE entitlement.

## Quality Evaluation funding allocations for 2010, 2011, and 2012

2.7 As in the PBRF Annual Report 2010, this section provides comparative analysis of QE financials both within and between years. The relative performance of TEOs has not changed since the 2006 QE which

<sup>4</sup> Some amendments relating to FTE status, including a revised definition of 'staff', have since been made and incorporated into the 2012 PBRF Quality Evaluation Guidelines.

fixed their ratios for this measure until the 2012 round. As noted earlier, changes for the QE component are thus a function of pool size, and any adjustments from the wash-up process or data corrections.

## 2010 final and 2011 final allocations

**Table 2.3: Final 2010 and final 2011 funding allocations – QE measure**

TEO	QE Final 2010	QE Final 2011	Change (\$)	Change (%)
University of Auckland	\$40,520,297	\$40,525,364	\$5,067	0.01%
University of Otago	\$33,632,779	\$33,636,984	\$4,205	0.01%
Massey University	\$21,830,726	\$21,833,456	\$2,730	0.01%
University of Canterbury	\$15,894,288	\$15,896,276	\$1,988	0.01%
Victoria University of Wellington	\$14,598,889	\$14,600,714	\$1,825	0.01%
University of Waikato	\$9,566,957	\$9,568,154	\$1,197	0.01%
Lincoln University	\$4,678,741	\$4,679,326	\$585	0.01%
Auckland University of Technology	\$4,107,649	\$4,108,163	\$514	0.01%
Unitec New Zealand	\$2,331,202	\$2,331,493	\$291	0.01%
Otago Polytechnic	\$500,787	\$500,849	\$62	0.01%
Manukau Institute of Technology	\$496,795	\$496,857	\$62	0.01%
Christchurch Polytechnic Institute of Technology	\$376,071	\$376,118	\$47	0.01%
Waikato Institute of Technology	\$346,056	\$346,099	\$43	0.01%
Te Whare Wānanga o Awanuiārangi	\$199,457	\$199,482	\$25	0.01%
Open Polytechnic of New Zealand	\$174,765	\$174,787	\$22	0.01%
Te Wānanga o Aotearoa	\$162,641	\$162,661	\$20	0.01%
Eastern Institute of Technology	\$159,684	\$159,704	\$20	0.01%
Nelson Marlborough Institute of Technology	\$85,350	\$85,360	\$10	0.01%
Whitireia Community Polytechnic	\$63,578	\$63,586	\$8	0.01%
Northland Polytechnic	\$54,559	\$54,566	\$7	0.01%
Carey Baptist College	\$51,749	\$51,756	\$7	0.01%
Whitecliffe College of Arts and Design	\$42,878	\$42,883	\$5	0.01%
Laidlaw College	\$25,875	\$25,878	\$3	0.01%
Bethlehem Institute of Education	\$22,178	\$22,181	\$3	0.01%
AIS St Helens	\$22,178	\$22,181	\$3	0.01%
Good Shepherd College	\$22,178	\$22,181	\$3	0.01%
Anamata	\$12,937	\$12,939	\$2	0.02%
<b>Total</b>	<b>\$149,981,244</b>	<b>\$150,000,000</b>	<b>\$18,754</b>	<b>0.01%</b>

- 2.8 Between the final 2010 and final 2011 allocations, the pool available for the QE component increased very marginally by 0.01 percent. Accordingly, each provider received an additional 0.01 percent of its share of funding, as fixed by the 2006 ratios. As set out in Table 2.3 above, the dollar amounts varied widely, ranging from an increase of \$5,067 for the University of Auckland (making up 27.02 percent of the pool) to an extra \$2 for Anamata.

## 2011 indicative and 2011 final allocations

**Table 2.4: Indicative and final funding allocations for 2011 – QE measure**

TEO	QE 2011 Indicative	QE 2011 Final	Change (\$)	Change (%)
University of Auckland	\$40,525,364	\$40,525,364	-	-
University of Otago	\$33,636,984	\$33,636,984	-	-
Massey University	\$21,833,456	\$21,833,456	-	-
University of Canterbury	\$15,896,276	\$15,896,276	-	-
Victoria University of Wellington	\$14,600,714	\$14,600,714	-	-
University of Waikato	\$9,568,154	\$9,568,154	-	-
Lincoln University	\$4,679,326	\$4,679,326	-	-
Auckland University of Technology	\$4,108,163	\$4,108,163	-	-
Unitec New Zealand	\$2,331,493	\$2,331,493	-	-
Otago Polytechnic	\$500,849	\$500,849	-	-
Manukau Institute of Technology	\$496,857	\$496,857	-	-
Christchurch Polytechnic Institute of Technology	\$376,118	\$376,118	-	-
Waikato Institute of Technology	\$346,099	\$346,099	-	-
Te Whare Wānanga o Awanuiārangi	\$199,482	\$199,482	-	-
Open Polytechnic of New Zealand	\$174,787	\$174,787	-	-
Te Wānanga o Aotearoa	\$162,661	\$162,661	-	-
Eastern Institute of Technology	\$159,704	\$159,704	-	-
Nelson Marlborough Institute of Technology	\$85,360	\$85,360	-	-
Whitireia Community Polytechnic	\$63,586	\$63,586	-	-
Northland Polytechnic	\$54,566	\$54,566	-	-
Carey Baptist College	\$51,756	\$51,756	-	-
Whitecliffe College of Arts and Design	\$42,883	\$42,883	-	-
Laidlaw College	\$25,878	\$25,878	-	-
Bethlehem Institute of Education	\$22,181	\$22,181	-	-
AIS St Helens	\$22,181	\$22,181	-	-
Good Shepherd College	\$22,181	\$22,181	-	-
Anamata	\$12,939	\$12,939	-	-
<b>Total</b>	<b>\$150,000,000</b>	<b>\$150,000,000</b>	<b>-</b>	<b>(0.00%)</b>

2.9 Since the 2006 Quality Evaluation, universities have received 96.57 percent of funding against this measure.<sup>5</sup> Other TEOs together receive 3.43 percent of the funding allocated through this measure. In 2011, this equated to \$5.15 million in final funding.

<sup>5</sup> This figure incorporates data from the Dunedin and Christchurch Colleges of Education which were previously reported separately from the universities with which they have since merged.

## 2011 final and 2012 indicative allocations

2.10 The maximum amount of the PBRF appropriation ring-fenced for the QE component (\$150 million) was available in both 2011 and 2012. This meant that providers' indicative allocations – based on the 2006 Quality Evaluation ratios – were the same for both years. In Table 2.5 below, each TEO's increase in indicative funding is therefore identical to the amount it lost after the wash-up for 2011.

**Table 2.5: Indicative 2012 funding compared to final 2011 funding – QE measure**

TEO	Numerator	Ratio	Final QE funding 2011	Indicative QE funding 2012	Change (\$)
University of Auckland	5,481	27.02%	\$40,525,364	\$40,525,364	-
University of Otago	4,550	22.42%	\$33,636,984	\$33,636,984	-
Massey University	2,953	14.56%	\$21,833,456	\$21,833,456	-
University of Canterbury	2,150	10.60%	\$15,896,276	\$15,896,276	-
Victoria University of Wellington	1,975	9.73%	\$14,600,714	\$14,600,714	-
University of Waikato	1,294	6.38%	\$9,568,154	\$9,568,154	-
Lincoln University	633	3.12%	\$4,679,326	\$4,679,326	-
Auckland University of Technology	556	2.74%	\$4,108,163	\$4,108,163	-
Unitec New Zealand	315	1.55%	\$2,331,493	\$2,331,493	-
Otago Polytechnic	68	0.33%	\$500,849	\$500,849	-
Manukau Institute of Technology	67	0.33%	\$496,857	\$496,857	-
Christchurch Polytechnic Institute of Technology	51	0.25%	\$376,118	\$376,118	-
Waikato Institute of Technology	47	0.23%	\$346,099	\$346,099	-
Te Whare Wānanga o Awanuiāraangi	27	0.13%	\$199,482	\$199,482	-
Open Polytechnic of New Zealand	24	0.12%	\$174,787	\$174,787	-
Te Wānanga o Aotearoa	22	0.11%	\$162,661	\$162,661	-
Eastern Institute of Technology	22	0.11%	\$159,704	\$159,704	-
Nelson Marlborough Institute of Technology	12	0.06%	\$85,360	\$85,360	-
Whitireia Community Polytechnic	9	0.04%	\$63,586	\$63,586	-
Northland Polytechnic	7	0.04%	\$54,566	\$54,566	-
Carey Baptist College	7	0.03%	\$51,756	\$51,756	-
Whitecliffe College of Arts and Design	6	0.03%	\$42,883	\$42,883	-
Laidlaw College	4	0.02%	\$25,878	\$25,878	-
Bethlehem Institute of Education	3	0.01%	\$22,181	\$22,181	-
ALS St Helens	3	0.01%	\$22,181	\$22,181	-
Good Shepherd College	3	0.01%	\$22,181	\$22,181	-
Anamata	2	0.01%	\$12,939	\$12,939	-
<b>Total</b>	<b>20,288</b>	<b>100%</b>	<b>\$150,000,000</b>	<b>\$150,000,000</b>	<b>-</b>

2.11 The PBRF Annual Report 2012 will confirm the final funding for 2012 relative to the indicative allocations tabled above.

## Chapter 3: External research income

### Introduction

- 3.1 The external research income (ERI) measure accounts for 15 percent of the total funds allocated through the PBRF each year. ERI is included as a performance measure in the PBRF on the basis that it provides a good proxy for research quality. The underlying assumption is that external research funders are discriminating in their choice of who to fund, and that they will allocate their limited resources to those they see as undertaking research of a high quality.
- 3.2 ERI is defined as the total research income received by a TEO (and/or any wholly-owned subsidiary), excluding income from:
- TEO employees who receive external research income in their personal capacity (i.e. the external research income is received by them and not their employer);
  - controlled trusts;
  - partnerships; and
  - joint ventures.
- 3.3 Only income for work that has actually been undertaken may be included in the ERI calculation. A complete description of inclusions and exclusions is given in chapter five of the PBRF Guidelines 2006, along with guidance on the status of joint or collaborative research.
- 3.4 TEOs that participate in the ERI measure submit returns to the TEC showing the amount of PBRF-eligible ERI they have earned for the 12 months ending 31 December of the preceding year. A declaration signed by the TEO's Chief Executive, as well as an independent audit opinion, is provided to the TEC to support each ERI calculation. If the total ERI is less than \$200,000, the TEO is permitted to submit its worksheets in lieu of an independent audit opinion.

### Funding formula for the external research income measure

- 3.5 The ERI measure is calculated as a weighted three-year rolling average. The formula used to calculate the ERI measure for 2011 is:

$$\frac{\sum [(2007 \text{ ERI for TEO} \times 0.15) + (2008 \text{ ERI for TEO} \times 0.35) + (2009 \text{ ERI for TEO} \times 0.50)]}{\sum [(Total \text{ 2007 ERI for all TEOs} \times 0.15) + (Total \text{ 2008 ERI for all TEOs} \times 0.35) + (Total \text{ 2009 ERI for all TEOs} \times 0.50)]} \times \text{total amount of funding available for the ERI component of the PBRF}$$

- 3.6 The formula used to calculate the ERI measure for 2012 is:

$$\frac{\sum [(2008 \text{ ERI for TEO} \times 0.15) + (2009 \text{ ERI for TEO} \times 0.35) + (2010 \text{ ERI for TEO} \times 0.5)]}{\sum [(Total \text{ 2008 ERI for all TEOs} \times 0.15) + (Total \text{ 2009 ERI for all TEOs} \times 0.35) + (Total \text{ 2010 ERI for all TEOs} \times 0.5)]} \times \text{total amount of funding available for the ERI component of the PBRF}$$

## External research income declared for the 2011 funding calculation

3.7 In 2007–2009, the total ERI declared by the 20 TEOs participating in the ERI measure was \$1.11 billion.<sup>6</sup> Table 3.1 shows the ERI declared in each of these three years, the changes from year-to-year, and the weighted three-year averages used to allocate PBRF funding for this measure.

**Table 3.1: External research income 2007 to 2009**

TEO	2007	Change 2007 → 2008	2008	Change 2008 → 2009	2009	PBRF- weighted total (numerator)
University of Auckland	\$116,683,274	18.73%	\$138,540,191	7.98%	\$149,595,526	\$140,789,321
University of Otago	\$72,047,118	20.97%	\$87,154,298	(0.16%)	\$87,018,665	\$84,820,405
Massey University	\$41,427,653	7.91%	\$44,706,446	19.10%	\$53,244,095	\$48,483,452
University of Canterbury	\$22,670,439	14.41%	\$25,936,887	41.68%	\$36,746,477	\$30,851,715
Victoria University of Wellington	\$24,029,305	22.01%	\$29,317,878	11.18%	\$32,595,392	\$30,163,349
University of Waikato	\$16,341,904	3.10%	\$16,848,972	22.31%	\$20,608,092	\$18,652,472
Lincoln University	\$18,691,168	9.88%	\$20,538,537	1.94%	\$20,937,208	\$20,460,767
Auckland University of Technology	\$6,728,068	(3.39%)	\$6,500,276	19.93%	\$7,795,524	\$7,182,069
Unitec New Zealand	\$1,582,521	(2.64%)	\$1,540,671	(66.44%)	\$516,996	\$1,035,111
Otago Polytechnic	\$101,195	44.69%	\$146,416	396.78%	\$727,370	\$430,110
Waikato Institute of Technology	\$278,074	(30.21%)	\$194,061	-	\$194,061	\$206,663
Manukau Institute of Technology	\$89,559	(38.83%)	\$54,782	247.73%	\$190,493	\$127,854
Christchurch Polytechnic Institute of Technology	\$841,540	(75.36%)	\$207,363	(22.30%)	\$161,119	\$279,368
Te Whare Wānanga o Awanuiārangi	-		\$164,779	189.79%	\$477,510	\$296,428
Eastern Institute of Technology	\$16,765	469.37%	\$95,455	143.40%	\$232,339	\$152,093
Open Polytechnic of New Zealand	\$45,778	96.15%	\$89,795	(100.00%)	-	\$38,295
Whitireia Community Polytechnic	\$201,799	(65.19%)	\$70,249	(61.14%)	\$27,301	\$68,508
Northland Polytechnic	\$28,062	274.28%	\$105,032	(77.15%)	\$24,000	\$52,971
Carey Baptist College	\$6,602	(100.00%)	-		-	\$990
Bethlehem Institute of Education	\$60,000	16.83%	\$70,100	0.43%	\$70,400	\$68,735
<b>Total</b>	<b>\$321,870,825</b>	<b>15.66%</b>	<b>\$372,282,188</b>	<b>10.44%</b>	<b>\$411,162,569</b>	<b>\$384,160,674</b>

<sup>6</sup> The total ERI for the 2007, 2008, and 2009 calendar years has been updated to reflect changes in the returns, and so may differ from that previously reported.

- 3.8 The \$1.10 billion in ERI declared by universities formed 99.36 percent of the total in 2007-2009. The remaining TEOs reported less than one percent of the total ERI, totalling \$8.61 million over the three year period.
- 3.9 Total ERI reported by TEOs increased overall by 15.66 percent between 2007 and 2008, and by 10.44 percent between 2008 and 2009. This most recent growth is largely attributable to increases in ERI generated by the university sub-sector. While the University of Auckland's ERI continued to grow (albeit at a decelerated rate on previous years), particularly strong growth was realised at Auckland University of Technology (recovering from 3.39 percent reduction in ERI between 2007 and 2009 to rise by 19.93 percent in the 2008 and 2009 period). There were similarly strong increases at the University of Canterbury (14.41 percent between 2007 and 2008 to 41.68 percent between 2008 and 2009), University of Waikato (3.10 percent between 2007 and 2008 to 22.31 percent between 2008 and 2009), and Massey University (7.91 percent between 2007 and 2008 to 19.10 percent between 2008 and 2009).
- 3.10 Whether positive or negative, year-on-year changes in the amount of ERI declared varied widely for many TEOs, and were often substantial in dollar terms. There was, however, overall stability within the ranks in terms of relative performance, with individual TEOs' shares of the total ERI pool fluctuating by one percent to two percent or less over the period. The University of Auckland, the University of Otago, and Massey University remained the only providers with a double-digit share of the pool (averaging approximately 37 percent, 22 percent, and 13 percent respectively over the three year period), together accounting for more than 71 percent of the ERI funds in 2007, 2008, and 2009.

## External research income declared for 2012 indicative funding calculations

- 3.11 In 2008-2010, the total ERI declared by the 19 TEOs participating in the ERI measure was \$1.19 billion. Table 3.2 shows the ERI declared in each of these three years, the changes from year-to-year, and the weighted three-year averages used to allocate PBRF funding for this measure.

**Table 3.2: External research income 2008 to 2010**

TEO	2008	Change 2008 → 2009	2009	Change 2009 → 2010	2010	PBRF-weighted total (numerator)
University of Auckland	\$138,540,191	7.98%	\$149,595,526	0.10%	\$149,747,687	\$148,013,306
University of Otago	\$87,154,298	(0.16%)	\$87,018,665	3.50%	\$90,064,602	\$88,561,978
Massey University	\$44,706,446	19.10%	\$53,244,095	5.01%	\$55,911,764	\$53,297,282
University of Canterbury	\$25,936,887	41.68%	\$36,746,477	(30.38%)	\$25,582,559	\$29,543,080
Victoria University of Wellington	\$29,317,878	11.18%	\$32,595,392	(1.71%)	\$32,038,397	\$31,825,267
University of Waikato	\$16,848,972	22.31%	\$20,608,092	(9.79%)	\$18,589,606	\$19,034,981
Lincoln University	\$20,538,537	1.94%	\$20,937,208	8.83%	\$22,785,129	\$21,801,368
Auckland University of Technology	\$6,500,276	19.93%	\$7,795,524	(27.87%)	\$5,623,292	\$6,515,121
Unitec New Zealand	\$1,540,671	(66.44%)	\$516,996	(14.17%)	\$443,738	\$633,918
Otago Polytechnic	\$146,416	396.78%	\$727,370	52.91%	\$1,112,234	\$832,659
Waikato Institute of Technology	\$194,061	-	\$194,061	(94.07%)	\$11,500	\$102,781

TEO	2008	Change 2008 → 2009	2009	Change 2009 → 2010	2010	PBRF- weighted total (numerator)
Manukau Institute of Technology	\$54,782	247.73%	\$190,493	(19.09%)	\$154,124	\$151,952
Christchurch Polytechnic Institute of Technology	\$207,363	(22.30%)	\$161,119	60.89%	\$259,231	\$217,112
Te Whare Wānanga o Awanuiārangi	\$164,779	189.79%	\$477,510	77.32%	\$846,732	\$615,211
Eastern Institute of Technology	\$95,455	143.40%	\$232,339	22.58%	\$284,791	\$238,033
Open Polytechnic of New Zealand	\$89,795	(100.00%)	-	-	\$87,504	\$57,221
Whitireia Community Polytechnic	\$70,249	(61.14%)	\$27,301	892.92%	\$271,082	\$155,634
Northland Polytechnic	\$105,032	(77.15%)	\$24,000	(100.00%)	-	\$24,155
Bethlehem Institute of Education	\$70,100	0.43%	\$70,400	41.16%	\$99,379	\$84,845
<b>Total</b>	<b>\$372,282,188</b>	<b>10.44%</b>	<b>\$411,162,569</b>	<b>(1.76%)</b>	<b>\$403,913,351</b>	<b>\$401,705,903</b>

- 3.12 The \$1.18 billion in ERI declared by universities formed 99.25 percent of the total across 2008, 2009, and 2010. The remaining TEOs reported just under one percent of the total ERI, amounting to \$8.93 million over the three year period. Overall there was a drop in ERI funding across all eligible providers in the period between 2009 and 2010 of 1.76 percent.
- 3.13 Between 2008 and 2010 each of the eight universities increased the amount of ERI it received. Only three of the universities (the University of Auckland, Massey University, and Lincoln University) were able to make successive increases between 2008 and 2009 and 2009 and 2010. The remainder increased in one period and decreased in the other with the largest variation experienced at the University of Canterbury with an increase of 41.68 percent between 2008 and 2009 followed by a 30.38 percent decrease between 2009 and 2010; likewise the Auckland University of Technology increased by 19.93 percent between 2008 and 2009 and decreased by 27.87 percent between 2009 and 2010. Between 2008 and 2010, the University of Auckland and Massey University generated the largest increases in ERI which equated to approximately \$10 million each.
- 3.14 Across the ITPs increases in the amount of ERI funding generated ranged from as much as an 892.92 percent increase (Whitireia Community Polytechnic 2008 and 2009) to a 94.07 percent decrease (Waikato Institute of Technology 2009 and 2010). Only Otago Polytechnic and the Eastern Institute of Technology were able to make consecutive increases on this measure. After starting from a relatively low base in 2008, Otago Polytechnic overtook Unitec as the largest recipient of ERI funding in the ITP sub-sector on the back of 396.78 and 52.91 percent gains, this shift also related to Unitec's successive reductions in reported ERI. Also starting from a small base, Whitireia Community Polytechnic made a substantial increase between 2009 and 2010 of 892.92 percent which saw its ERI for 2012 rise to \$155,634 from \$68,508 in 2011.
- 3.15 Across the wānanga and PTEs there were only two providers participating, namely Te Whare Wānanga o Awanuiārangi and Bethlehem Institute of Education, both of which made consecutive increases. Te Whare Wānanga o Awanuiārangi made a substantial increase across each year (189.79 percent and 77.32 percent), increasing its reported ERI by \$681,953 between 2008 and 2010 and netting it \$615,211 in its allocation for 2012.



## External research income funding allocations for 2010, 2011, and 2012

3.16 As in the PBRF annual report 2010, this section provides comparative analysis of ERI financials both within and between years.

### 2010 final and 2011 final allocations

**Table 3.3: Final 2010 and final 2011 funding allocations – ERI measure**

TEO	ERI Final 2010	ERI Final 2011	Change (\$)	Change (%)
University of Auckland	\$13,843,535	\$13,743,207	(\$100,328)	(0.72%)
University of Otago	\$8,584,062	\$8,279,778	(\$304,284)	(3.54%)
Massey University	\$4,632,232	\$4,732,732	\$100,500	2.17%
University of Canterbury	\$2,608,402	\$3,011,603	\$403,201	15.46%
Victoria University of Wellington	\$2,890,712	\$2,944,408	\$53,696	1.86%
University of Waikato	\$1,788,248	\$1,820,769	\$32,521	1.82%
Lincoln University	\$2,096,185	\$1,997,286	(\$98,899)	(4.72%)
Auckland University of Technology	\$723,069	\$701,081	(\$21,988)	(3.04%)
Unitec New Zealand	\$154,434	\$101,043	(\$53,391)	(34.57%)
Otago Polytechnic	\$15,943	\$41,985	\$26,042	163.34%
Manukau Institute of Technology	\$7,182	\$12,481	\$5,299	73.78%
Christchurch Polytechnic Institute of Technology	\$48,183	\$27,271	(\$20,912)	(43.40%)
Waikato Institute of Technology	\$29,376	\$20,173	(\$9,203)	(31.33%)
Te Whare Wānanga o Awanuiārangi	\$17,850	\$28,936	\$11,086	62.11%
Open Polytechnic of New Zealand	\$19,205	\$3,738	(\$15,467)	(80.54%)
Eastern Institute of Technology	\$6,048	\$14,847	\$8,799	145.49%
Whitireia Community Polytechnic	\$13,150	\$6,687	(\$6,463)	(49.15%)
Northland Polytechnic	\$7,064	\$5,171	(\$1,893)	(26.80%)
Carey Baptist College	\$252	\$97	(\$155)	(61.51%)
Laidlaw College	\$24	-	(\$24)	(100.00%)
Bethlehem Institute of Education	\$7,080	\$6,710	(\$370)	(5.23%)
Anamata	\$3,075	-	(\$3,075)	(100.00%)
<b>Total</b>	<b>\$37,495,311</b>	<b>\$37,500,003</b>	<b>\$4,692</b>	<b>0.01%</b>

3.17 Between the final 2010 and final 2011 allocations, funding for the ERI component increased only fractionally (by 0.01 percent). TEOs' shares of this pool remained determined by their relative success in attracting ERI over the previous three year period.

3.18 In the university sub-sector, four providers received increases in ERI funding in 2011, ranging from 1.82 to 15.46 percent of their 2010 amount (University of Waikato and the University of Canterbury, respectively). Reduced funding was apportioned to the University of Auckland, the University of Otago, Lincoln University, and Auckland University of Technology in line with their lesser increases in performance against this measure.

- 3.19 Performance of the ITP sub-sector improved overall but was varied across providers. Unitec experienced a sharp drop on this measure compared with its performance in previous years, its 2011 funding down 34.57 percent on its final 2010 ERI allocation. Despite some fairly significant shifts compared with 2010 funding, these proportional changes were relatively small in monetary terms. On the back of this decrease at Unitec, by far the largest in the ITP sector, the majority of ITPs increased their ERI generation over this period. Starting from relatively low baselines, there were large increases at Otago Polytechnic (163.34 percent), Eastern Institute of Technology (145.49 percent), and Manukau Institute of Technology (73.78 percent). Decreases ranged from 26.80 to 80.54 percent at Northland Polytechnic and the Open Polytechnic of New Zealand, respectively.
- 3.20 In the wānanga and PTE sub-sectors, Te Whare Wānanga o Awanuiārangi was the only one of the five providers receiving ERI funding to increase its final allocation between 2010 and 2011 (62.11 percent). Funding for the four other providers declined by sizeable proportions (but relatively small amounts), ranging from 5.23 percent (Bethlehem Institute of Education) to 100 percent (Laidlaw College).

## 2011 indicative and 2011 final allocations

- 3.21 As shown in table 3.4 below, there were no changes in ERI funding between 2011 indicative and final allocations.

**Table 3.4: Indicative and final funding allocations for 2011 – ERI measure**

TEO	ERI 2011 Indicative	ERI 2011 Final	Change (\$)	Change (%)
University of Auckland	\$13,743,207	\$13,743,207	-	-
University of Otago	\$8,279,778	\$8,279,778	-	-
Massey University	\$4,732,732	\$4,732,732	-	-
University of Canterbury	\$3,011,603	\$3,011,603	-	-
Victoria University of Wellington	\$2,944,408	\$2,944,408	-	-
University of Waikato	\$1,820,769	\$1,820,769	-	-
Lincoln University	\$1,997,286	\$1,997,286	-	-
Auckland University of Technology	\$701,081	\$701,081	-	-
Unitec New Zealand	\$101,043	\$101,043	-	-
Otago Polytechnic	\$41,985	\$41,985	-	-
Manukau Institute of Technology	\$12,481	\$12,481	-	-
Christchurch Polytechnic Institute of Technology	\$27,271	\$27,271	-	-
Waikato Institute of Technology	\$20,173	\$20,173	-	-
Te Whare Wānanga o Awanuiārangi	\$28,936	\$28,936	-	-
Open Polytechnic of New Zealand	\$3,738	\$3,738	-	-
Eastern Institute of Technology	\$14,847	\$14,847	-	-
Whitireia Community Polytechnic	\$6,687	\$6,687	-	-
Northland Polytechnic	\$5,171	\$5,171	-	-
Carey Baptist College	\$97	\$97	-	-
Bethlehem Institute of Education	\$6,710	\$6,710	-	-
<b>Total</b>	<b>\$37,500,003</b>	<b>\$37,500,003</b>	-	-

## 2011 final and 2012 indicative allocations

3.22 As seen in Tables 3.1 and 3.2, the total ERI earned by TEOs was \$1.11 billion for the 2011 final allocation, and \$1.19 billion for the 2012 indicative (a 7.42 percent or \$82.04 million increase). Table 3.5 provides detail of 2011 final funding and 2012 indicative allocations for the ERI measure.

**Table 3.5: Indicative 2012 funding compared to final 2011 funding – ERI measure**

TEO	2011 Ratio	2011 Final Funding	2012 Ratio	2012 Indicative Funding	Ratio Difference	Funding Change (\$)	Funding Change (%)
University of Auckland	36.65%	\$13,743,207	36.85%	\$13,817,320	0.20%	\$74,113	0.54%
University of Otago	22.08%	\$8,279,778	22.05%	\$8,267,427	(0.03%)	(\$12,351)	(0.15%)
Massey University	12.62%	\$4,732,732	13.27%	\$4,975,401	0.65%	\$242,669	5.13%
University of Canterbury	8.03%	\$3,011,603	7.35%	\$2,757,902	(0.68%)	(\$253,701)	(8.42%)
Victoria University of Wellington	7.85%	\$2,944,408	7.92%	\$2,970,948	0.07%	\$26,540	0.90%
Lincoln University	5.33%	\$1,997,286	5.43%	\$2,035,199	0.10%	\$37,913	1.90%
University of Waikato	4.86%	\$1,820,769	4.74%	\$1,776,951	(0.12%)	(\$43,818)	(2.41%)
Auckland University of Technology	1.87%	\$701,081	1.62%	\$608,199	(0.25%)	(\$92,882)	(13.25%)
Unitec New Zealand	0.27%	\$101,043	0.16%	\$59,177	(0.11%)	(\$41,866)	(41.43%)
Otago Polytechnic	0.11%	\$41,985	0.21%	\$77,730	0.10%	\$35,745	85.14%
Manukau Institute of Technology	0.03%	\$12,481	0.04%	\$14,185	0.00%	\$1,704	13.65%
Christchurch Polytechnic Institute of Technology	0.07%	\$27,271	0.05%	\$20,268	(0.02%)	(\$7,003)	(25.68%)
Waikato Institute of Technology	0.05%	\$20,173	0.03%	\$9,595	(0.03%)	(\$10,578)	(52.44%)
Te Whare Wānanga o Awanuiārangi	0.08%	\$28,936	0.15%	\$57,431	0.08%	\$28,495	98.48%
Open Polytechnic of New Zealand	0.01%	\$3,738	0.01%	\$5,342	0.00%	\$1,604	42.91%
Eastern Institute of Technology	0.04%	\$14,847	0.06%	\$22,221	0.02%	\$7,374	49.67%
Whitireia Community Polytechnic	0.02%	\$6,687	0.04%	\$14,529	0.02%	\$7,842	117.27%
Northland Polytechnic	0.01%	\$5,171	0.01%	\$2,255	(0.01%)	(\$2,916)	(56.39%)
Carey Baptist College	0.00%	\$97	0.00%	-	(0.00%)	(\$97)	(100.00%)
Bethlehem Institute of Education	0.02%	\$6,710	0.02%	\$7,920	0.00%	\$1,210	18.03%
<b>Total</b>	<b>100.00%</b>	<b>\$37,500,003</b>	<b>100.00%</b>	<b>\$37,500,000</b>	<b>-</b>	<b>(\$3)</b>	<b>(0.00%)</b>

## Universities

3.23 In the university sub-sector, the greatest changes in both percentage points and dollars were the 0.65 percent increased share realised by Massey University (allocated an additional \$242,669), and the 0.68 percent decrease to the University of Canterbury's ratio (to the value of -\$253,701). The University of Auckland increased its share of total ERI funding by 0.20 percent points while there were also small increases at Lincoln University (0.10 percent) and Victoria University of Wellington (0.07 percent).

## Other TEOs

3.24 Outside of the universities, Unitec experienced a 41.43 percent decrease in terms of its 2012 indicative funding or \$41,866 in monetary terms. While Otago Polytechnic's 2012 indicative funding increased by 85.14 percent accounting for a similar amount in dollar terms (\$35,745) to the loss at Unitec.

## Chapter 4: Research degree completions

### Introduction

- 4.1 The research degree completions (RDC) measure accounts for 25 percent of the total funds to be allocated through the PBRF each year. The use of RDC as a performance measure in the PBRF serves two key purposes:
- It captures, to some degree, the connection between staff research and research training, thus providing some assurance of the future capability of tertiary education research; and
  - It provides a proxy for research quality. The underlying assumption is that students choosing to undertake lengthy, expensive and advanced degrees (especially Doctorates) will tend to search out departments and supervisors who have excellent reputations in the relevant fields for high quality research and research training.
- 4.2 To be eligible for the RDC measure, research-based postgraduate degrees (such as Masters and Doctorates) must be completed within a TEO, and meet the following criteria:
- the degree has an externally assessed research component of 0.75 Equivalent Full-Time Student (EFTS) value or more;
  - the student who has completed the degree has met all compulsory academic requirements by 31 December of the relevant year; and
  - the student has completed the course successfully.
- 4.3 Following extensive work with the sector to improve reporting practices, the TEC has moved to using the SDR for RDC data collection, on which funding decisions are based after TEOs confirm their figures. This new process was first used for the final 2010 funding allocation.

### Funding formula and allocations

- 4.4 The RDC measure is calculated as a weighted three-year rolling average, with additional weightings for the following factors:
- the funding category of the subject area (“cost weighting”);
  - Māori and Pasifika student completions (“equity weighting”); and
  - the volume of research in the degree programme (“research component weighting”).
- 4.5 The formula used to calculate the number of research degree completions for each TEO is:

$$\text{RDC} = [(\text{cost weighting for relevant subject area}) \times (\text{equity weighting}) \times (\text{research component weighting})]$$

- 4.6 The cost weightings for the various subject areas, as shown in Table 4.1 below, are the same as those applied in the Quality Evaluation part of the PBRF. They are determined by the course’s Student Achievement Component funding category as set down in the course register.

**Table 4.1: Cost weighting**

Student Achievement Component – Funding Category	Weighting
A, I, J	1
B, L	2
C, G, H, M, Q	2.5

4.7 Table 4.2 shows the equity weighting applied to each individual research degree completion. This weighting aims to encourage TEOs to enrol and support Māori and Pasifika students, as their representation at higher levels of the New Zealand Qualifications Framework is low.<sup>7</sup> The ethnicity weighting is applied to each matched course completion record, based on the student ethnicity from the student file associated with the matched enrolment.

**Table 4.2: Equity weighting**

Ethnicity	Weighting
Māori	2
Pasifika peoples	2
All other ethnicities	1

4.8 The research component weighting uses a “volume of research factor” (VRF) based on the volume of research making up the completed degree programme, as shown in Table 4.3.

**Table 4.3: Research component weighting**

Research component weighting	VRF
Less than 0.75 EFTS	0
0.75 EFTS to 1.0 EFTS research component	EFTS value of research component
Masters course of 1.0 thesis or more	1
Professional doctorate with research component	EFTS value of research component
Doctorate	3

4.9 For 2011 funding, the formula for the proportion of the RDC measure allocated to each TEO is:

$$\frac{\sum [(2007 \text{ RDC for TEO} \times 0.15) + (2008 \text{ RDC for TEO} \times 0.35) + (2009 \text{ RDC for TEO} \times 0.50)]}{\sum [(Total \ 2007 \ RDC \ for \ all \ TEOs \times 0.15) + (Total \ 2008 \ RDC \ for \ all \ TEOs \times 0.35) + (Total \ 2009 \ RDC \ for \ all \ TEOs \times 0.50)]} \times \text{total amount of funding available for the RDC component of the PBRF}$$

<sup>7</sup> From the 2012 Quality Evaluation onwards, a strategic equity weighting of 4 will be applied to all RDCs in which the content of the thesis is written entirely in te reo Māori.

4.10 For 2012 funding, the formula for the proportion of the RDC measure allocated to each TEO is:

$$\frac{\Sigma [(2008 \text{ RDC for TEO} \times 0.15) + (2009 \text{ RDC for TEO} \times 0.35) + (2010 \text{ RDC for TEO} \times 0.50)]}{\Sigma [(Total \text{ 2008 RDC for all TEOs} \times 0.15) + (Total \text{ 2009 RDC for all TEOs} \times 0.35) + (Total \text{ 2010 RDC for all TEOs} \times 0.50)]} \times \text{total amount of funding available for the RDC component of the PBRF}$$

## Research Degree Completions funding allocations for 2010, 2011, and 2012

### 2010 final and 2011 final allocations

**Table 4.4: Final 2010 and final 2011 funding allocations – RDC measure**

TEO	RDC Final 2010	RDC Final 2011	Change (\$)	Change (%)
University of Auckland	\$18,880,667	\$19,703,061	\$822,394	4.36%
University of Otago	\$10,729,964	\$10,612,380	(\$117,584)	(1.10%)
Massey University	\$8,553,337	\$8,104,393	(\$448,944)	(5.25%)
University of Canterbury	\$8,628,278	\$8,238,228	(\$390,050)	(4.52%)
Victoria University of Wellington	\$5,727,470	\$5,548,702	(\$178,768)	(3.12%)
University of Waikato	\$4,272,878	\$3,984,663	(\$288,215)	(6.75%)
Lincoln University	\$1,847,373	\$1,806,913	(\$40,460)	(2.19%)
Auckland University of Technology	\$2,750,001	\$3,228,996	\$478,995	17.42%
Unitec New Zealand	\$431,075	\$683,746	\$252,671	58.61%
Otago Polytechnic	\$179,314	\$136,082	(\$43,232)	(24.11%)
Waikato Institute of Technology	\$238,888	\$211,410	(\$27,478)	(11.50%)
Te Whare Wānanga o Awanuiārangi	\$59,771	\$47,487	(\$12,284)	(20.55%)
Eastern Institute of Technology	-	\$43,500	\$43,500	
Whitecliffe College of Arts and Design	\$167,835	\$115,275	(\$52,560)	(31.32%)
Laidlaw College	\$25,334	\$35,162	\$9,828	38.79%
<b>Total</b>	<b>\$62,492,185</b>	<b>\$62,499,999</b>	<b>\$7,814</b>	<b>0.01%</b>

4.11 Between the final 2010 and final 2011 allocations, funding for the RDC component increased by just 0.01 percent. TEOs' shares of this pool were determined by their relative success against the RDC measure for the respective three year periods.

4.12 In the university sub-sector, only two universities received increases on their 2010 RDC funding for 2011, namely the University of Auckland and Auckland University of Technology. The former received proportionally the largest share of RDC funding (\$19,703,061) across all providers, increasing on its 2010 allocation by 4.36 percent. Auckland University of Technology received the lowest amount of RDC funding in the sub-sector but realised a significant increase of 17.42 percent or \$478,995 on its 2010 allocation.

- 4.13 The largest decreases in terms of final RDC funding for 2011 compared with 2010 occurred at the University of Waikato and Massey University, which dropped by 6.75 percent and 5.25 percent respectively. Overall the university sub-sector received fractionally less RDC funding in 2011 than it did in 2010, amounting to a difference of \$162,631 on \$61.39 million – largely as a result of Unitec’s increase.
- 4.14 In the ITP sub-sector, four of the ten participating ITPs received RDC funding in 2011 compared with three in 2010. Unitec received the highest proportion of RDC funding and in 2011 increased its allocation by 58.61 percent or \$252,671. Unitec’s increase between 2010 and 2011 alone was greater than the total share of RDC funding allocated to the next highest performing RDC recipient in the sub-sector, Waikato Institute of Technology which received \$211,410 in 2011.
- 4.15 With the exception of the Eastern Institute of Technology, which was allocated RDC funding for the first time in 2011 and Unitec, which had a substantial increase, the two remaining ITPs’ final allocations reduced considerably compared with 2010. Otago Polytechnic’s 2011 RDC allocation was down by 24.11 percent compared with 2011, while the Waikato Institute of Technology’s dropped by 11.50 percent over the same period.
- 4.16 Te Whare Wānanga o Awanuiārangi was the only one of the two participating wānanga to be allocated RDC funding in 2011, albeit a 20.55 percent decrease (\$12,284) on its 2010 allocation. Whitecliffe College of Arts and Design and Laidlaw College were the only two PTEs to receive RDC funding. The former, and significantly larger of the two in terms of its RDC allocation, had a 31.32 percent decrease while the latter experienced a 38.79 percent increase compared with 2010.

## 2011 indicative and 2011 final allocations

**Table 4.5: Indicative and final funding allocations for 2011 – RDC measure**

TEO	RDC 2011 Indicative	RDC 2011 Final	Change (\$)	Change (%)
University of Auckland	\$20,339,615	\$19,703,061	(\$636,554)	(3.13%)
University of Otago	\$11,034,832	\$10,612,380	(\$422,452)	(3.83%)
Massey University	\$8,653,207	\$8,104,393	(\$548,814)	(6.34%)
University of Canterbury	\$7,933,547	\$8,238,228	\$304,681	3.84%
Victoria University of Wellington	\$5,235,176	\$5,548,702	\$313,526	5.99%
University of Waikato	\$4,036,217	\$3,984,663	(\$51,554)	(1.28%)
Lincoln University	\$1,861,238	\$1,806,913	(\$54,325)	(2.92%)
Auckland University of Technology	\$2,297,775	\$3,228,996	\$931,221	40.53%
Unitec New Zealand	\$578,905	\$683,746	\$104,841	18.11%
Otago Polytechnic	\$123,310	\$136,082	\$12,772	10.36%
Waikato Institute of Technology	\$217,288	\$211,410	(\$5,878)	(2.71%)
Te Whare Wānanga o Awanuiārangi	\$48,950	\$47,487	(\$1,463)	(2.99%)
Eastern Institute of Technology	\$53,248	\$43,500	(\$9,748)	(18.31%)
Whitecliffe College of Arts and Design	\$51,566	\$115,275	\$63,709	123.55%
Laidlaw College	\$35,125	\$35,162	\$37	0.11%
<b>Total</b>	<b>\$62,499,999</b>	<b>\$62,499,999</b>	<b>(\$0)</b>	<b>(0.00%)</b>

- 4.17 Although the final wash-up for the 2011 RDC funding made no change to the total allocations, many providers’ final allocations varied significantly from indicative amounts.



- 4.18 The university sub-sector had, in general, minor fluctuations with a mix of small increases and decreases. Auckland University of Technology, the smallest of the universities in terms of RDC allocation, was the exception to this with a significant increase of 40.53 percent (\$931,221) compared with its 2011 indicative RDC amount. 2011 final RDC funding for the University of Auckland, University of Otago, and Massey University decreased by 3.13, 3.83, and 6.34 percent respectively compared with indicative funding for 2011. Although small in terms of percentage these drops between indicative and final allocations were significant in monetary terms, with universities losing \$636,554, \$422,452, and \$548,814 respectively. The University of Waikato and Lincoln University experienced minor decreases of 1.28 percent (-\$51,554) and 2.92 percent (-\$54,325) respectively. There were also increases at the University of Canterbury 3.84 percent (\$304,681) and Victoria University of Wellington 5.99 percent (\$313,526).
- 4.19 Across the ITPs, Unitec received by far the largest share of RDC funding and its 2011 final allocation increased by 18.11 percent or \$104,841 compared with its 2011 indicative allocation. The next largest in terms of its RDC allocation in the sub-sector, Otago Polytechnic, also had an increase of 10.36 percent compared with its 2011 indicative allocation, which amounted to \$12,772 in monetary terms. The only other change of significance in the ITP sub-sector was an 18.31 percent drop between the 2011 indicative allocation and 2011 final RDC funding for the Eastern Institute of Technology.
- 4.20 Amongst the other three participating providers that returned RDC data, Te Whare Wānanga o Awanuiārangī experienced a decrease of 2.99 percent and Laidlaw College increased its indicative 2011 RDC allocation by 0.11 percent. Whitecliffe College of Arts and Design had a significant increase between its allocation and final funding increasing by 123.55 percent, starting from a small baseline of \$51,566 however in monetary terms this was only a difference of \$63,709.

## 2011 final and 2012 indicative allocations

- 4.21 For 2011 final funding, \$62.50 million was available for allocation through the RDC measure, based on 2007–2009 data. Total funding remained the same for the 2011 indicative RDC allocations, based on 2008–2010 data.
- 4.22 Fifteen TEOs were eligible to receive indicative RDC funding for 2011. Detailed information about RDCs for 2007 to 2010 is provided later in the chapter.
- 4.23 Table 4.6 compares 2011 final and 2012 indicative funding allocations for the RDC measure.<sup>8</sup>

**Table 4.6: Indicative 2012 funding compared to final 2011 funding – RDC measure**

TEO	2011 Ratio	2011 Final Funding	2012 Ratio	2012 Indicative Funding	Ratio Difference	Funding Change (\$)	Funding Change (%)
University of Auckland	31.52%	\$19,703,061	32.45%	\$20,281,250	0.93%	\$578,189	2.93%
University of Otago	16.98%	\$10,612,380	17.04%	\$10,650,000	0.06%	\$37,620	0.35%
Massey University	12.97%	\$8,104,393	12.20%	\$7,625,000	(0.77%)	(\$479,393)	(5.92%)
University of Canterbury	13.18%	\$8,238,228	11.72%	\$7,325,000	(1.46%)	(\$913,228)	(11.09%)
Victoria University of Wellington	8.88%	\$5,548,702	9.83%	\$6,143,750	0.95%	\$595,048	10.72%
University of Waikato	6.38%	\$3,984,663	6.63%	\$4,143,750	0.25%	\$159,087	3.99%
Lincoln University	2.89%	\$1,806,913	3.17%	\$1,981,250	0.28%	\$174,337	9.65%

<sup>8</sup> The RDC figures for over-lapping years (2008 and 2009) may not match due to current data accuracy work. Updated figures will be reported in the 2012 annual report.

TEO	2011 Ratio	2011 Final Funding	2012 Ratio	2012 Indicative Funding	Ratio Difference	Funding Change (\$)	Funding Change (%)
Auckland University of Technology	5.17%	\$3,228,996	4.42%	\$2,762,500	(0.75%)	(\$466,496)	(14.45%)
Unitec New Zealand	1.09%	\$683,746	1.51%	\$943,750	0.42%	\$260,004	38.03%
Otago Polytechnic	0.22%	\$136,082	0.18%	\$112,500	(0.04%)	(\$23,582)	(17.33%)
Waikato Institute of Technology	0.34%	\$211,410	0.41%	\$256,250	0.07%	\$44,840	21.21%
Te Whare Wānanga o Awanuiārangi	0.08%	\$47,487	0.12%	\$75,000	0.04%	\$27,513	57.94%
Eastern Institute of Technology	0.07%	\$43,500	0.05%	\$31,250	(0.02%)	(\$12,250)	(28.16%)
Whitecliffe College of Arts and Design	0.18%	\$115,275	0.22%	\$137,500	0.04%	\$22,225	19.28%
Laidlaw College	0.06%	\$35,162	0.05%	\$31,250	(0.01%)	(\$3,912)	(11.13%)
<b>Total</b>	<b>100.00%</b>	<b>\$62,499,999</b>	<b>100.00%</b>	<b>\$62,500,000</b>	<b>-</b>	<b>\$1</b>	<b>0.00%</b>

- 4.24 The university sub-sector continued to perform most strongly against the RDC measure, receiving 97.96 percent of the available funding in their final 2011 allocation and 97.46 percent in the 2012 indicative allocation.
- 4.25 The University of Auckland and the University of Otago were again the top performers, jointly receiving 48.50 percent (\$30.3 million) of the available funding in 2011, and increasing to just over 49.49 percent (\$30.9 million) in 2012 indicative allocations.
- 4.26 The University of Auckland made a relatively modest increase on its indicative allocation, leading to a funding change of 2.93 percent (\$578,189). Victoria University of Wellington had the largest proportional increase across the universities, with a 10.72 percent (\$595,048) increase compared with its 2011 final funding. There were also large decreases between 2011 final RDC funding and 2012 indicative allocations for the University of Canterbury (down 11.09 percent or \$913,228), Massey University (down 5.92 percent or \$479,393), and Auckland University of Technology (down 14.45 percent or \$466,496).
- 4.27 Overall the university sub-sector decreased in terms of its total share of the 2012 allocation compared with its 2011 final funding by \$314,837. This reduction is largely attributable to the increased allocation received by Unitec, which received the majority of funding outside of the universities. Unitec increased its 2012 RDC allocation by 38.03 percent (\$260,004) compared with its 2011 final funding as did the Waikato University of Technology with an increase of 21.21 percent (\$44,840). In contrast Eastern Institute of Technology experienced a sharp decrease of 28.16 percent (\$12,250) in its 2012 RDC allocation compared with 2011 final funding. However, in monetary terms this decrease was relatively insignificant for the ITP sub-sector.
- 4.28 Te Whare Wānanga o Awanuiārangi and Whitecliffe College of Arts and Design both had strong increases in terms of their 2012 RDC indicative funding compared with 2011 final funding, increasing by 57.94 and 19.28 percent respectively – starting from relatively low baselines these increases were significant in terms of monetary value for these providers.

## Research degree completions by ethnicity

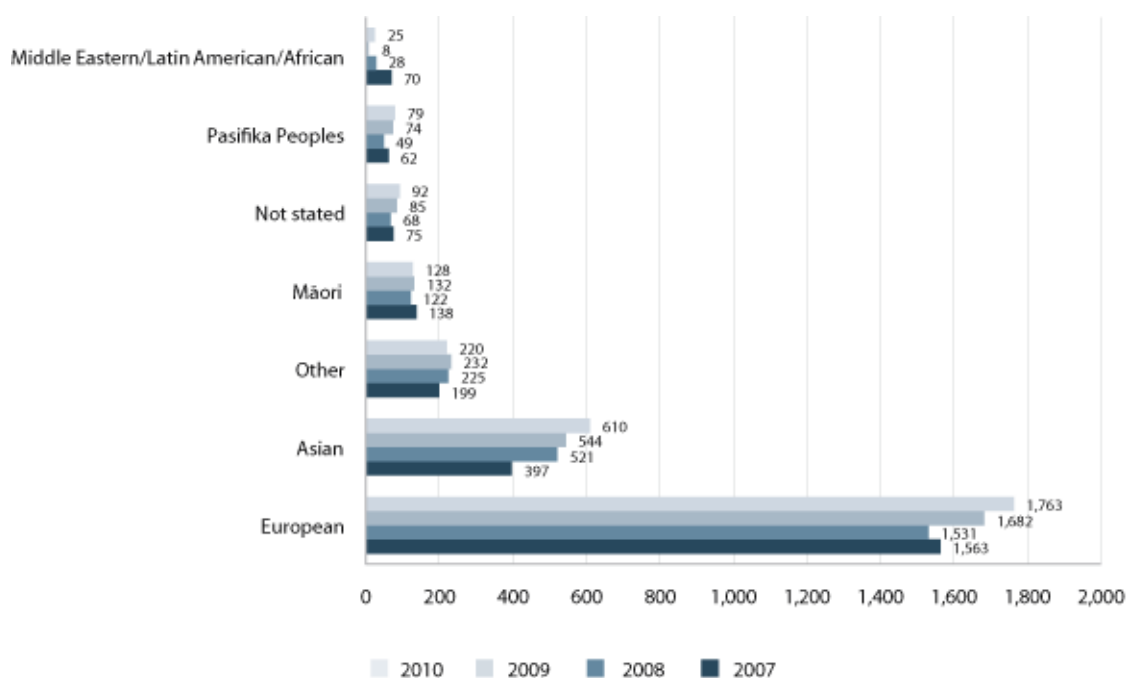
- 4.29 Table 4.7 below presents ethnicity counts for RDCs. To provide a maximum of meaningful data on change here, this table combines figures from the years of two RDC funding periods (both the 2011 final and the 2012 indicative allocations) to cover 2007–2010.

**Table 4.7: Research degree completions by ethnicity, 2007–2010**

Ethnicity	2007	Pro-portion of total 2007	Change 2007 → 2008	2008	Pro-portion of total 2008	Change 2008 → 2009	2009	Pro-portion of total 2009	Change 2009 → 2010	2010	Pro-portion of total 2010
European	1,542	60.14%	9.14%	1,683	60.89%	5.64%	1,778	60.35%	3.04%	1,832	58.18%
Asian	469	18.29%	16.20%	545	19.72%	13.39%	618	20.98%	19.26%	737	23.40%
Other	149	5.81%	51.01%	225	8.14%	-2.22%	220	7.47%	-9.09%	200	6.35%
Māori	122	4.76%	9.84%	134	4.85%	-3.73%	129	4.38%	18.60%	153	4.86%
Not stated	70	2.73%	18.57%	83	3.00%	14.46%	95	3.22%	-17.89%	78	2.48%
Pasifika peoples	51	1.99%	49.02%	76	2.75%	5.26%	80	2.72%	22.50%	98	3.11%
MELAA*	161	6.28%	-88.82%	18	0.65%	44.44%	26	0.88%	96.15%	51	1.62%
<b>Total</b>	<b>2,564</b>	<b>100.00%</b>	<b>7.80%</b>	<b>2,764</b>	<b>100.00%</b>	<b>6.58%</b>	<b>2,946</b>	<b>100.00%</b>	<b>6.89%</b>	<b>3,149</b>	<b>100.00%</b>

\*MELAA refers to Middle Eastern/Latin American/African

- 4.30 Year-on-year, the counts of RDCs have continued to rise at a similar rate with an increase of 200 between 2007 and 2008, 182 between 2008 and 2009 and 203 between 2009 and 2010.
- 4.31 Over the four-year period four of the ethnic categories (Asian, Māori, Pasifika peoples, and Other) increased as a proportion of the total RDCs. Across the ethnic categories with the smallest baselines (MELAA, Pasifika peoples, Not stated, and Other) there was significant year-on-year percentage point shifts but these had a lower relative impact on the total pool. For example, MELAA decreased by -88.82 percent between 2007 and 2008, increased by 44.44 percent between 2008 and 2009, and increased again by 96.15 percent between 2009 and 2010. By 2010 the MELAA ethnic category accounted for just 1.62 percent of the total pool compared with 6.28 percent in 2007 – a decrease of 4.66 percent.
- 4.32 The total proportion of European RDCs has remained steady over the period, with slight fluctuations between years starting at 60.14 percent in 2007, reaching a peak of 60.89 percent in 2008 and dropping slightly by 2010 to account for 58.18 percent of the total pool. During this same period the Asian ethnic category experienced a steady increase, ranging from 18.29 percent in 2007 to 23.40 percent by 2010 with the strongest growth (19.26 percentage points) occurring between 2009 and 2010.
- 4.33 Over the four year period the proportion of RDCs for Māori has remained steady with minor fluctuations between years, the most notable of these were the 18.60 percentage point increase between 2009 and 2010 and the -3.73 percent decrease between 2008 and 2009. Overall Māori accounted for 4.86 percent of the total pool in 2010 compared with 4.76 percent in 2007 making an increase of just 0.10 percent. This result is again disappointing given equity weighting applied to this group.
- 4.34 Pasifika students have continued to make steady gains with year-on-year percentage point increases of 49.02 percent, 5.26 percent, and 22.50 percent between 2007 and 2008, 2008 and 2009, and 2009 and 2010 respectively. The number of RDCs completed by Pasifika peoples in 2010 accounted for 3.11 of the total pool compared with 1.99 percent in 2007.
- 4.35 Further factors to consider in the analysis of ethnicity data include the fact that students may change their reported ethnicity or ethnicities over the course of their study which can exceed six years in duration.

**Figure 4.1: Research degree completions by ethnicity, 2007–2010**

## Research degree completions by TEO, 2007–2010

4.36 The tables in the series that follows provide RDC counts for the years 2007 to 2010, thereby incorporating overlapping data used for two funding periods<sup>9</sup> and allowing greater analysis of changes over time.

**Table 4.8: RDCs by NQF grouping with change between years, 2007–2010**

TEO	PBRF NQF grouping	2007	Change 2006 → 2007	2008	Change 2007 → 2008	2009	Change 2008 → 2009	2010	Total
The University of Auckland	Doctorate	198	14.65%	227	7.93%	245	19.18%	292	962
	Masters	561	2.85%	577	22.36%	706	<b>(1.70%)</b>	694	2,538
	Post Grad	31	<b>(12.90%)</b>	27	<b>(81.48%)</b>	5	0.00%	5	68
University of Otago	Doctorate	144	6.94%	154	15.58%	178	16.85%	208	684
	Masters	213	0.47%	214	3.74%	222	(12.61%)	194	843
	Post Grad	22	<b>(22.73%)</b>	17	11.76%	19	15.79%	22	80
Massey University	Doctorate	115	2.61%	118	5.08%	124	12.10%	139	496
	Masters	216	15.74%	250	<b>(8.00%)</b>	230	<b>(15.22%)</b>	195	891
University of Canterbury	Doctorate	105	28.57%	135	<b>(14.07%)</b>	116	(4.31%)	111	467
	Masters	255	<b>(16.86%)</b>	212	<b>(1.42%)</b>	209	<b>(0.96%)</b>	207	883
	Post Grad	3	<b>(100.00%)</b>						3
Victoria University of Wellington	Doctorate	95	<b>(23.16%)</b>	73	4.11%	76	86.84%	142	386

<sup>9</sup> While these counts were accurate at the time funding decisions were made in late 2012, they may be subject to change. Any revisions for the years 2008 to 2010 will be reflected in the PBRF Annual Report 2012.

TEO	PBRF NQF grouping	2007	Change 2006 → 2007	2008	Change 2007 → 2008	2009	Change 2008 → 2009	2010	Total
	Masters	188	37.77%	259	(8.49%)	237	4.64%	248	932
University of Waikato	Doctorate	60	(25.00%)	45	42.22%	64	3.13%	66	235
	Masters	133	1.50%	135	(2.22%)	132	40.15%	185	585
Auckland University of Technology	Doctorate	13	269.23%	48	(35.42%)	31	12.90%	35	127
	Masters	45	180.00%	126	12.70%	142	(7.04%)	132	445
	Post Grad	11	27.27%	14	85.71%	26	65.38%	43	94
Lincoln University	Doctorate	27	(25.93%)	20	65.00%	33	33.33%	44	124
	Masters	38	(10.53%)	34	11.76%	38	(7.89%)	35	145
Unitec New Zealand	Doctorate	1	(100.00%)			1	(100.00%)		2
	Masters	41	(21.95%)	32	125.00%	72	11.11%	80	225
Waikato Institute of Technology	Masters	6	16.67%	7	(57.14%)	3	133.33%	7	23
	Post Grad	10	(10.00%)	9	22.22%	11	90.91%	21	51
Otago Polytechnic	Masters	10	40.00%	14	(57.14%)	6	16.67%	7	37
Christchurch College of Education	Masters	2	(100.00%)			1	(100.00%)		3
Whitecliffe College of Arts and Design	Masters	11	(9.09%)	10	(50.00%)	5	260.00%	18	44
Te Whare Wānanga o Awanuiārangi	Masters			3	0.00%	3	200.00%	9	15
	Post Grad	7	(100.00%)						7
Laidlaw College Incorporated	Masters	3	33.33%	4	25.00%	5	0.00%	5	17
Eastern Institute of Technology	Masters					6	(16.67%)	5	11
<b>Total</b>		<b>2,564</b>		<b>2,764</b>		<b>2,946</b>		<b>3,149</b>	

## Universities

4.37 While none of the participating TEIs sustained consistent year-on-year growth in their total count of all RDC types between 2007 and 2010, the three highest performing universities continued to produce steady increases in the numbers of PhDs completed over these four years (The University of Auckland; University of Otago; Massey). Doctoral completions also rose in the remaining universities, albeit less consistently and, with the exception of the University of Canterbury, over two – rather than all three – measured periods of change.

4.38 There were decreases in terms of the number of doctoral completions between 2007 and 2008 at Victoria University of Wellington, the University of Waikato, and Lincoln University followed by successive increases at each of these universities between 2008 and 2009 and 2009 and 2010. In terms of PhD completions one of the most significant was the increase of 86.84 percentage points (increasing from 76 to 142 completions) at Victoria University of Wellington between 2009 and 2010. In terms of PhD completions the University of Canterbury decreased between both 2008 and 2009 (-14.07 percent) and 2009 and 2010 (-4.31 percent), while the Auckland University of Technology decreased between 2008 and 2009 (-35.42 percent) and increased in the following interval by 12.90 percent compared with the previous year.

- 4.39 For the Auckland University of Technology fluctuations between years in terms of PhD completions are due to relatively low base numbers, it may also be due to one-off surges in completions, and may reflect earlier surges in uptake – targeted or otherwise – and/or transfers from Masters degrees.
- 4.40 There were strong increases for the University of Auckland, University of Otago, and Massey University between 2009 and 2010 in terms of the number of doctoral completions. Each of the aforementioned universities increased by double digit percentages on the previous year with 19.18, 16.85, and 12.10 percent respectively or 47, 36, and 15 completions.
- 4.41 In general Masters completions increased in volume between 2007 and 2008 and the following interval, however between 2009 and 2010 this number dropped across six universities. Both Victoria University of Wellington and the University of Waikato increased the number of successfully completed Masters during this period with a 4.64 percent and 40.15 percent increase respectively compared with the previous year.

### Other TEOs

- 4.42 In the ITP sub-sector, counts of RDCs remained low compared with the universities. Outside of the universities Unitec was the only ITP with any Doctoral completions with 1 during 2007 and 1 in 2009. Unitec also had the highest number of Masters completions of the remaining institutions and slightly more than the smallest university (Lincoln University). Unlike most others, Waikato Institute of Technology most commonly awarded Postgraduate Diplomas and Honours – these made up 75 percent of its RDCs in 2010.
- 4.43 Compared with the universities the ITPs and PTEs had small base numbers of RDCs and as such there were large fluctuations between years in terms of percentage increases on the previous interval. After drops in consecutive years Whitecliffe College of Arts and Design had an increase in RDCs between 2009 and 2010 and remains the largest PTE on this measure.
- 4.44 Since being approved to deliver Masters programmes in 2007 Te Whare Wānanga o Awanuiārangi has consistently increased its Masters completions, and is expected to award doctorates in the future.

## Research degree completions by broad field of study and subject-area weighting, 2007–2010

- 4.45 This section provides sets of tables and associated commentary on research degree completions between 2007 and 2010 for each level of PBRF-eligible postgraduate study. In addition to subject-area weightings, data is cut by broad field of study, as defined by the New Zealand Standard Classification of Education (NZSCED).<sup>10</sup> TEOs appear by alphabetical order.

<sup>10</sup> For more detail, see [http://www.educationcounts.govt.nz/data-services/collecting-information/code\\_sets/new\\_zealand\\_standard\\_classification\\_of\\_education\\_nzsced/nzsced\\_broad\\_fields\\_of\\_study](http://www.educationcounts.govt.nz/data-services/collecting-information/code_sets/new_zealand_standard_classification_of_education_nzsced/nzsced_broad_fields_of_study)

## All RDC types

4.46 Table 4.9 sets out the numbers of RDCs (all types aggregated) for each TEO by broad field of study.

**Table 4.9: Aggregated RDC types by broad field of study and TEO, 2007–2010**

Broad NZSCED	TEO	2007	2008	2009	2010	Total
Agriculture, Environmental and Related Studies	Lincoln University	5	4	8	3	20
	Massey University	10	6	4	5	25
	The University of Auckland		2	4	2	8
	University of Canterbury	4	1	3	2	10
	University of Otago	11	11	18	13	53
	Victoria University of Wellington	17	28	24	15	84
Architecture and Building	Massey University	1	1	2	2	6
	The University of Auckland	12	17	67	31	127
	Unitec New Zealand	5	2	28	40	75
	Victoria University of Wellington	2	5	4	10	21
Creative Arts	Auckland University of Technology	24	64	77	100	265
	Massey University	24	41	32	46	143
	Otago Polytechnic	6	11	3	5	25
	The University of Auckland	61	121	122	117	421
	Unitec New Zealand	11	4	5	4	24
	University of Canterbury	23	16	25	29	93
	University of Otago	3	2	1	8	14
	University of Waikato	12	9	5	25	51
	Victoria University of Wellington	14	20	21	20	75
	Waikato Institute of Technology	16	15	14	25	70
	Whitecliffe College of Arts and Design	11	10	5	18	44
Education	Auckland University of Technology	1	6	5	5	17
	Christchurch College of Education	2		1		3
	Massey University	25	25	7	15	72
	The University of Auckland	25	25	21	12	83
	Unitec New Zealand	3	4	6	2	15
	University of Canterbury	3	6	5	11	25
	University of Otago	2	1			3

**Table 4.9: Aggregated RDC types by broad field of study and TEO, 2007–2010 — continued**

Broad NZSCED	TEO	2007	2008	2009	2010	Total
Engineering and Related Technologies	Auckland University of Technology			9	10	19
	Massey University	26	16	28	20	90
	The University of Auckland	71	63	60	74	268
	University of Canterbury	52	27	18	30	127
	University of Otago	1				1
	University of Waikato	4	10	4	13	31
	Victoria University of Wellington				2	2
Health	Auckland University of Technology	7	20	18	18	63
	Eastern Institute of Technology			6	5	11
	Massey University	7	2	8	3	20
	Otago Polytechnic	4	3	3	2	12
	The University of Auckland	38	51	54	45	188
	Unitec New Zealand	3	1	7	16	27
	University of Canterbury	12	14	13	21	60
	University of Otago	54	43	48	46	191
	Victoria University of Wellington	1	5	10	6	22
	Waikato Institute of Technology		1		3	4
Information Technology	Auckland University of Technology	2	5	9	3	19
	Lincoln University		4	2	1	7
	Massey University	8	5	6		19
	Unitec New Zealand	7	7	6	4	24
Engineering and Related Technologies	Auckland University of Technology			9	10	19
	Massey University	26	16	28	20	90
	The University of Auckland	71	63	60	74	268
	University of Canterbury	52	27	18	30	127
	University of Otago	1				1



**Table 4.9: Aggregated RDC types by broad field of study and TEO, 2007–2010 — continued**

Broad NZSCED	TEO	2007	2008	2009	2010	Total
Management and Commerce	Auckland University of Technology	12	9	26	17	64
	Lincoln University	17	8	11	14	50
	Massey University	11	25	14	15	65
	The University of Auckland	45	33	40	55	173
	Unitec New Zealand	13	14	18	12	57
	University of Canterbury	4	5	4	5	18
	University of Otago	9	10	12	4	35
	University of Waikato	4		9	3	16
	Victoria University of Wellington	18	21	23	17	79
Mixed Field Programmes	Auckland University of Technology	3	7	3		13
	Lincoln University	27	20	33	44	124
	Massey University	109	116	119	125	469
	The University of Auckland	180	215	227	278	900
	University of Canterbury	105	135	116	114	470
	University of Otago	137	150	170	197	654
	University of Waikato			2	2	4
	Victoria University of Wellington	95	73	76	142	386
	Auckland University of Technology	3	7	9	8	27
Natural and Physical Sciences	Lincoln University	15	15	16	16	62
	Massey University	41	51	49	41	182
	The University of Auckland	226	191	235	236	888
	University of Canterbury	89	83	84	65	321
	University of Otago	111	104	104	105	424
	University of Waikato	49	45	50	57	201
	Victoria University of Wellington	46	80	56	50	232
Society and Culture	Auckland University of Technology	17	70	43	49	179
	Laidlaw College Incorporated	3	4	5	5	17
	Lincoln University	1	3	1	1	6
	Massey University	69	80	85	62	296
	Te Whare Wānanga o Awanuiārangi	7	3	3	9	22
Unknown	University of Waikato			2		2
<b>Total</b>		<b>2,564</b>	<b>2,764</b>	<b>2,946</b>	<b>3,149</b>	<b>11,423</b>

- 4.47 In a shift from previous years the Mixed Field Programmes category contained the largest number of RDCs for most providers reflecting changes to qualification codes across individual providers for funding purposes. The data included in the table above and the remainder of this section will vary significantly with tables provided in the 2010 PBRF Annual Report. As such, the analysis below relates only to the data provided in this report.
- 4.48 Due to the reclassifications outlined above, the number of RDCs recorded under the Mixed Field Category has increased exponentially to account for the largest proportion of RDCs for nearly all providers in 2010, including 47 percent at the University of Otago, 37 percent at Massey University, and 36 percent at the University of Canterbury. The University of Waikato and Auckland University of Technology were the two exceptions to this with low numbers of RDCs in this field.
- 4.49 Outside of the Mixed Field Category the universities performance largely reflects their traditional strengths. There were, for example, high proportions of RDCs in Society and Culture for Victoria University of Wellington (30 percent), with similarly high proportions in Natural and Physical Sciences at the University of Auckland (24 percent) and the University of Otago (25 percent), and Creative Arts at the Auckland University of Technology (48 percent).
- 4.50 Creative Arts continued to increase in 2010 compared with the previous year in terms of the total number of RDCs, in particular at the Auckland University of Technology and Massey University which increased by 23 and 14 RDCs respectively.
- 4.51 Unitec, Eastern Institute of Technology, Waikato Institute of Technology and Otago Polytechnic were the only ITPs to feature in terms of RDCs and did so primarily in the fields of Architecture and Building, Creative Arts, Education, and Health. Unitec, by far the largest of the ITPs, also had RDCs across a number of NZSCED broad fields including Information Technology, Management and Commerce, and more recently Society and Culture. Unitec's highest number of RDCs were in Architecture and Building in 2010 with 40, more than the University of Auckland, which had 31.
- 4.52 Whitecliffe College of Arts and Design, Te Whare Wānanga o Awanuiārangi and Laidlaw College were the only other providers outside of the universities and ITPs with any RDCs. Whitecliffe College of Arts and Design had 18 RDCs in 2010 (up from five in 2009) in the field of Creative Arts while Te Whare Wānanga o Awanuiārangi and Laidlaw College had nine and five RDCs respectively in Society and Culture.

**Table 4.10: Doctoral completions by subject weighting and broad NZSCED, 2007–2010**

TEO	Subject weighting	Broad NZSCED	2007	2008	2009	2010	Total
Auckland University of Technology	1	Education			2	1	3
		Society and Culture	7	21	8	18	54
	2	Health			1	2	3
		Society and Culture	6	17	14	11	48
	2.5	Health		2	2		4
		Society and Culture		8	4	3	15
Lincoln University	1	Mixed Field Programmes	5	3	7	11	26
	2	Mixed Field Programmes	8	6	10	18	42
	2.5	Mixed Field Programmes	14	11	16	15	56
Massey University	1	Education	6	4	3	8	21
		Mixed Field Programmes	38	35	40	45	158
	2	Mixed Field Programmes	38	51	45	55	189
		Society and Culture			3	7	10
	2.5	Mixed Field Programmes	33	28	33	24	118
The University of Auckland	1	Education	3	6	4	4	17
		Mixed Field Programmes	64	63	57	71	255
	2	Creative Arts	6	3	7	1	17
		Mixed Field Programmes	58	85	71	96	310
		Society and Culture	9	3	7	8	27
	2.5	Health				2	2
		Mixed Field Programmes	58	67	99	110	334
Unitec New Zealand	1	Education			1		1
	2.5	Information Technology	1				1
University of Canterbury	1	Mixed Field Programmes	26	32	24	24	106
	2	Mixed Field Programmes	46	50	50	49	195
	2.5	Mixed Field Programmes	33	53	42	38	166
University of Otago	1	Mixed Field Programmes	34	30	47	44	155
	2	Mixed Field Programmes	66	75	72	84	297
	2.5	Health	11	6	12	14	43
		Mixed Field Programmes	33	43	47	66	189
University of Waikato	1	Education	1		5	5	11
		Society and Culture	30	18	25	30	103
	2	Society and Culture	23	24	25	25	97
	2.5	Society and Culture	6	3	9	6	24
Victoria University of Wellington	1	Mixed Field Programmes	48	29	32	64	173
	2	Mixed Field Programmes	45	44	43	74	206
	2.5	Mixed Field Programmes	2		1	4	7
<b>Total</b>			<b>758</b>	<b>820</b>	<b>868</b>	<b>1,037</b>	<b>3,483</b>

## Doctorates

- 4.53 Due to the significant number of reclassifications of NZSCED fields of study the breadth of areas reported by institutions has narrowed considerably when compared with the 2010 PBRF Annual Report.
- 4.54 Table 4.10 above shows consistent growth in PhD completions between 2007 and 2010, with the largest increase (169 additional Doctoral completions) evident between 2009 and 2010. Over the four year period Doctoral completions generally increased at higher weighted subject levels.
- 4.55 In 2010 Mixed Field Programmes, following reclassifications of NZSCED fields, accounted for 892 PhD completions out of a total 1037 completions across the sector – this proportion has remained similar across the four year period. At most institutions Doctoral completions in Mixed Field Programmes were recorded at each subject weighting range (1.0, 2.0, and 2.5). Society and Culture was the second largest NZSCED grouping accounting for 108 PhD completions in 2010, the remaining 37 were spread across the fields of Health, Education, Creative Arts, and Information Technology.
- 4.56 The University of Auckland had the highest number of PhDs in Mixed Field Programmes across each subject weighting in 2010 with 71 at 1.0-weighted, 96 at 2.0-weighted, and 110 at 2.5-weighted completions. The University of Otago was the second highest but like Victoria University of Wellington, Massey University, the University of Canterbury and Lincoln University had its greatest concentration of completions in 2.0-weighted Mixed Field Programmes.
- 4.57 There were particularly strong increases in the number of Doctoral Mixed Field Programmes recorded between 2009 and 2010 at the University of Auckland, University of Otago, and Victoria University of Wellington. Between 2009 and 2010 PhDs in Mixed Field Programmes increased in number by 32 at Victoria University of Wellington and 14 at the University of Auckland. In 2.0-weighted Mixed Field Programmes over the same period the Victoria University of Wellington increased by 31, the University of Auckland by 25, and the University of Otago by 12. The University of Otago and the University of Auckland's 2.5-weighted Mixed Field Programmes increased by 19 and 11 respectively in 2010 compared with 2009.
- 4.58 The University of Canterbury and the University of Waikato have demonstrated the least growth across the four year period in terms of the number of overall Doctoral completions. The University of Waikato and the Auckland University of Technology were the only universities not to have any PhD completions in Mixed Field Programmes. Unitec was the only ITP to feature in terms of Doctoral completions though the number was small.

**Table 4.11: Masters completions by subject weighting and broad NZSCED, 2007–2010**

TEO	Subject weighting	Broad NZSCED	2007	2008	2009	2010	Total
Auckland University of Technology	1	Creative Arts	8	19	33	26	86
		Education	1	6	3	4	14
		Management and Commerce	12	9	26	17	64
		Society and Culture	3	17	9	9	38
	2	Creative Arts	6	31	20	32	89
		Natural and Physical Sciences	2	7	8	8	25
		Information Technology	2	5	9	3	19
		Society and Culture		4	4	5	13
	2.5	Engineering and Related Technologies			8	9	17
		Health	7	18	15	16	56
		Mixed Field Programmes	3	7	3		13
		Society and Culture	1	3	4	3	11
Lincoln University	1	Natural and Physical Sciences	1			1	2
		Management and Commerce	17	8	10	12	47
		Society and Culture	1	3	1	1	6
	2	Agriculture, Environmental and Related Studies	4	2	3	2	11
		Natural and Physical Sciences	9	10	5	9	33
		Information Technology		4	2	1	7
	2.5	Agriculture, Environmental and Related Studies	1	2	5	1	9
		Natural and Physical Sciences	5	5	11	6	27
		Management and Commerce			1	2	3

**Table 4.11: Masters completions by subject weighting and broad NZSCED, 2007–2010 — continued**

TEO	Subject weighting	Broad NZSCED	2007	2008	2009	2010	Total	
Massey University	1	Agriculture, Environmental and Related Studies	2	1	2		5	
		Education	19	20	4	7	50	
		Natural and Physical Sciences	3	3	2	4	12	
		Engineering and Related Technologies			1		1	
		Information Technology			2		2	
		Management and Commerce	11	25	14	15	65	
		Mixed Field Programmes		1			1	
		Society and Culture	45	46	44	32	167	
		2	Agriculture, Environmental and Related Studies	1				1
	Creative Arts		24	41	32	46	143	
	Education			1			1	
	Natural and Physical Sciences		33	43	44	31	151	
	Engineering and Related Technologies		1		2		3	
	Health		1		2	1	4	
	Information Technology		8	5	4		17	
	Mixed Field Programmes			1	1	1	3	
	Society and Culture		21	32	38	22	113	
	2.5		Agriculture, Environmental and Related Studies	7	5	2	5	19
			Architecture and Building	1	1	2	2	6
		Natural and Physical Sciences	5	5	3	6	19	
Engineering and Related Technologies		25	16	25	20	86		
Health		6	2	6	2	16		
Society and Culture		3	2		1	6		
Christchurch College of Education	1	Education	2		1		3	
Eastern Institute of Technology	2	Health			6	5	11	
Laidlaw College Incorporated	1	Society and Culture	3	4	5	5	17	
Otago Polytechnic	2	Creative Arts	6	11	3	5	25	
		Health	4	3	3	2	12	
Te Whare Wānanga o Awanuiārangi	1	Society and Culture		3	3	9	15	

**Table 4.11: Masters completions by subject weighting and broad NZSCED, 2007–2010 — continued**

TEO	Subject weighting	Broad NZSCED	2007	2008	2009	2010	Total	
The University of Auckland	1	Agriculture, Environmental and Related Studies				1	1	
		Creative Arts	10	6	8	10	34	
		Education	21	19	15	8	63	
		Natural and Physical Sciences	5	7	8	9	29	
		Management and Commerce	38	27	28	46	139	
		Society and Culture	91	90	87	87	355	
	2	Creative Arts	44	111	107	106	368	
		Education	1		2		3	
		Natural and Physical Sciences	162	128	171	155	616	
		Engineering and Related Technologies	7	10	8	7	32	
		Health	13	16	18	11	58	
		Management and Commerce	7	6	12	9	34	
		Mixed Field Programmes				1	1	
		Society and Culture	26	15	27	41	109	
		2.5	Agriculture, Environmental and Related Studies		2	4	1	7
			Architecture and Building	12	17	67	31	127
	Natural and Physical Sciences		35	35	56	72	198	
	Engineering and Related Technologies		64	53	52	67	236	
	Health		25	35	36	32	128	
	Unitec New Zealand	1	Creative Arts	3	1	3	2	9
Education			3	4	5	2	14	
Management and Commerce			11	14	16	12	53	
Society and Culture					3	2	5	
2		Creative Arts	8	3	2	2	15	
		Health	3	1	7	16	27	
		Information Technology	6	7	6	4	23	
2.5		Architecture and Building	5	2	28	40	75	
	Management and Commerce	2		2		4		

**Table 4.11: Masters completions by subject weighting and broad NZSCED, 2007–2010 — continued**

TEO	Subject weighting	Broad NZSCED	2007	2008	2009	2010	Total
University of Canterbury	1	Creative Arts		1	5	3	9
		Education		6	5	11	22
		Natural and Physical Sciences		1	6	2	9
		Management and Commerce	4	5	4	5	18
		Society and Culture	52	45	48	36	181
	2	Creative Arts	23	15	20	26	84
		Natural and Physical Sciences	82	76	69	47	274
		Mixed Field Programmes				1	1
		Society and Culture	19	15	9	5	48
	2.5	Agriculture, Environmental and Related Studies	4	1	3	2	10
		Natural and Physical Sciences	7	6	9	16	38
		Engineering and Related Technologies	52	27	18	30	127
		Health	12	14	13	21	60
		Mixed Field Programmes				2	2
	University of Otago	1	Creative Arts				1
Education			2	1			3
Natural and Physical Sciences					1	2	3
Health			1				1
Management and Commerce			9	7	11	4	31
Mixed Field Programmes			1		1		2
Society and Culture			38	41	40	39	158
2		Agriculture, Environmental and Related Studies	11				11
		Creative Arts	3	2	1	7	13
		Natural and Physical Sciences	86	79	81	81	327
		Health	5	6	7	6	24
		Management and Commerce		3	1		4
		Mixed Field Programmes	3	1	2	3	9
		Society and Culture	7	15	16	10	48
2.5		Agriculture, Environmental and Related Studies		11	18	13	42
		Natural and Physical Sciences	16	17	11	8	52
		Engineering and Related Technologies	1				1
		Health	24	22	21	18	85
		Mixed Field Programmes		1	1		2
		Society and Culture	6	8	10	2	26



**Table 4.11: Masters completions by subject weighting and broad NZSCED, 2007–2010 — continued**

TEO	Subject weighting	Broad NZSCED	2007	2008	2009	2010	Total
University of Waikato	1	Education	19	20	16	22	77
		Natural and Physical Sciences	1			1	2
		Management and Commerce	4		9	3	16
		Society and Culture	24	21	17	29	91
	2	Creative Arts	12	9	5	25	51
		Education	1	3		3	7
		Natural and Physical Sciences	45	40	49	51	185
		Mixed Field Programmes			2	2	4
		Society and Culture	20	27	27	29	103
		#N/A			2		2
	2.5	Natural and Physical Sciences	3	5	1	5	14
		Engineering and Related Technologies	4	10	4	13	31
		Society and Culture				2	2
Victoria University of Wellington	1	Creative Arts				1	1
		Education	4	6	5	11	26
		Natural and Physical Sciences	3	9	1	2	15
		Management and Commerce	15	19	21	17	72
		Society and Culture	71	77	78	98	324
	2	Agriculture, Environmental and Related Studies	17	28	24	15	84
		Creative Arts	14	20	21	19	74
		Natural and Physical Sciences	42	66	55	47	210
		Health	1	5	10	6	22
		Management and Commerce	3	2	2		7
		Society and Culture	15	17	16	19	67
	2.5	Architecture and Building	2	5	4	10	21
		Natural and Physical Sciences	1	5		1	7
Engineering and Related Technologies					2	2	
Waikato Institute of Technology	2	Creative Arts	6	6	3	4	19
		Health		1		3	4
Whitecliffe College of Arts and Design	2	Creative Arts	11	10	5	18	44
<b>Total</b>			<b>1722</b>	<b>1877</b>	<b>2017</b>	<b>2021</b>	<b>7637</b>

## Masters

- 4.59 The data on Masters completions shows there has been growth over the four year period with a continued shift toward higher weighted Masters categories. It also demonstrates that there has been considerably slower growth between 2009 and 2010 than in the previous intervals.
- 4.60 The count of Natural and Physical sciences 2.0-weighted completions in 2010 decreased at the University of Auckland by 16 compared with the previous year, while the number of 2.5-weighted Masters in the same field increased by 15 during the same period. The number of 2.0-weighted Natural and Physical sciences Masters has continued to decrease at the University of Canterbury over the past four years reducing from a peak of 82 in 2007 to a low of 47 in 2010. While there have been moderate increases in 2.5-weighted Natural and Physical sciences Masters for the University of Canterbury.
- 4.61 The number of Society and Culture Masters completions was mixed across providers between 2009 and 2010. Victoria University of Wellington maintained its steady growth in single weighted RDCs increasing from 79 to 98 between 2009 and 2010 and increased its 2.0-weighted completions by three over the same interval. Similarly the University of Waikato recorded 12 additional Masters completions in 2010 compared with 2009 and two additional 2.0-weighted completions – the institution also registered a 2.5-weighted completion for the first time in 2010. Having been steady over the last four years there was a relatively sharp drop at Massey University between 2009 and 2010 reducing by 12 single weighted completions and 16 2.0-weighted completions.
- 4.62 There were strong increases between 2009 and 2010 in 2.5-weighted Engineering and Related Technologies RDCs at the University of Auckland (up by 15), the University of Canterbury (up by 12), and the University of Waikato (up by 9). On the back of strong growth in counts of architecture and building graduates in 2009, there was a steep drop of 36 Masters completions in 2010 at the University of Auckland compared with the previous year. This drop may in part be due to strong increases at Unitec which has risen from just 5 in 2007 to 40 Masters completions in 2010 and is also based in the Auckland region.
- 4.63 There were a number of increases in creative arts 2.0-weighted completions across providers with notable upsurges between 2009 and 2010 at the University of Waikato (5 to 25), Auckland University of Technology (20 to 32), and Whitecliffe College of Arts and Design (5 to 18).
- 4.64 In general the number of completions across 2.0 and 2.5-weighted Health Masters declined between 2009 and 2010 with drops at traditionally the two largest providers in this field – the University of Auckland and the University of Otago. In 2010 the University of Canterbury increased its 2.5-weighted completions by 8 compared with the previous year, while Unitec continued its steady growth in 2.0-weighted Health Masters increasing by 9 on 2009.
- 4.65 Agriculture, Environmental and Related Studies was another NZSCED field to reduce in terms of the number of Masters completions across nearly all providers between 2009 and 2010. Probably the two most notable drops occurred at the Victoria University of Wellington which reduced its 2.0-weighted Masters completions by 9 and the University of Otago where 2.5-weighted Masters dropped by 6 on the previous year.

**Table 4.12: Postgraduate Diplomas and Honours completions by subject weighting and broad NZSCED, 2007–2010**

TEO	Subject weighting	Broad NZSCED	2007	2008	2009	2010	Total
Auckland University of Technology	2	Creative Arts	10	14	24	42	90
	2.5	Natural and Physical Sciences	1		1		2
		Engineering and Related Technologies			1	1	2
Te Whare Wananga o Awanuiarangi	1	Society and Culture	7				7
The University of Auckland	2	Creative Arts	1	1			2
		Natural and Physical Sciences	24	21			45
	2.5	Society and Culture	6	5	5	5	21
University of Canterbury	1	Education	3				3
University of Otago	2	Natural and Physical Sciences	9	8	11	14	42
		Health	2		1		3
	2.5	Health	11	9	7	8	35
Waikato Institute of Technology	2	Creative Arts	10	9	11	21	51
<b>Total</b>			<b>84</b>	<b>67</b>	<b>61</b>	<b>91</b>	<b>303</b>

### Postgraduate Diplomas and Honours

- 4.66 Over the four-year period, the number of Postgraduate and Honours completions fluctuated across the six providers who awarded them – beginning at 84 in 2007 dropping to a low of 61 in 2009 to reach a peak of 91 in 2010. By 2010 the majority of these completions were concentrated in three large groups being Creative Arts 2.0-weighted at the Auckland University of Technology, Creative Arts 2.0-weighted at Waikato Institute of Technology, and 2.0-weighted Natural and Physical Sciences at the University of Otago.
- 4.67 Overall, the Auckland University of Technology has recorded the highest number of Postgraduate Diplomas and Honours over the four year period, primarily due to the high number of Creative Arts completions in 2010. Natural and Physical Sciences at the University of Auckland were also a strong contributor but ceased since 2008 as have Creative Arts.